DOCUMENT RESUME

ED 465 391 JC 020 419

AUTHOR Howey, Steven Craig
TITLE The Relationship between Motivation and Academic Success of Community College Freshmen Orientation Students.
PUB DATE 1999-00-00
NOTE 117p.; Ph.D. Dissertation, Kansas State University. Appendixes may not reproduce clearly.
PUB TYPE Dissertations/Theses - Doctoral Dissertations (041) -- Tests/Questionnaires (160)
EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS *Academic Achievement; *College Freshmen; Community Colleges; Economically Disadvantaged; Educationally Disadvantaged; Goal Orientation; High Risk Students; *Learning Motivation; School Orientation; *Student Motivation; Two Year Colleges
IDENTIFIERS *Freshman Success Courses

ABSTRACT

The purpose of this study was to investigate the relationship between motivation and academic success for community college freshmen orientation students. Moreover, the study compared the relationship among specific motivational factors of students classified as either academically prepared or underprepared, as determined by ACT/ASSET scores. Motivation was assessed by the use of the Motivated Strategies for Learning Questionnaire (MSLQ), which measures six motivational factors on a seven-point Likert scale. The motivation factors included in the MSLQ are intrinsic goal orientation, extrinsic goal orientation, task value, control beliefs about learning, self-efficacy for learning and performance, and test anxiety. A total of 428 first-time, full-time freshmen were administered the MSLQ on the second day of an hour-long, one-credit freshmen orientation course. Multiple regression was used to investigate the relationship between the motivational factors and students' academic success (grade) in the course. No statistical significance was found in this study to support the hypothesis concerning the relationship between motivation and academic success in freshmen orientation. However, analysis of variance of the mean scores did find significant differences between academically prepared students and academically underprepared students in four of the six motivational factors studied. Implications of the findings for freshmen orientation programs are discussed. Appendixes include: Demographic Information questionnaire; proposal letter; Motivated Strategies for Learning Questionnaire; "A Manual for the Use of the Motivated Strategies for Learning Questionnaire (MLSQ)" (P. Pintrich, D. Smith, T. Garcia, and W. McKeachie); and data relating to the Hutchinson Community College and Area Vocational School. (Contains 87 references.) (Author/MKF)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 465 391

THE RELATIONSHIP BETWEEN MOTIVATION AND ACADEMIC SUCCESS OF COMMUNITY COLLEGE FRESHMEN ORIENTATION STUDENTS

by

STEVEN CRAIG HOWEY

B.S., McPherson College, 1967

M.S., Emporia State University, 1973

A DISSERTATION

Submitted in partial fulfillment of the

requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Student Counseling and Personnel Services

College of Education

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1999

Approved by:

Major Professor

Margery Neely

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

S. Howey

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

TC020419

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

THE RELATIONSHIP BETWEEN MOTIVATION AND ACADEMIC SUCCESS OF COMMUNITY COLLEGE FRESHMEN ORIENTATION STUDENTS

by

STEVEN CRAIG HOWEY

B.S., McPherson College, 1967

M.S., Emporia State University, 1973

AN ABSTRACT OF A DISSERTATION

Submitted in partial fulfillment of the

requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Student Counseling and Personnel Services

College of Education

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1999

ABSTRACT

The purpose of this study was to investigate the relationship between motivation and academic success of community college freshmen orientation students. Moreover, the study compared the relationship among specific motivational factors of students classified as either academically prepared or academically underprepared as determined by ACT/ASSET scores. These scores are used to determine readiness for college level course work or the need for developmental studies.

Motivation was assessed by the use of the Motivated Strategies for Learning Questionnaire (MSLQ) which measures six motivational factors on a seven point Likert scale. The motivation factors included in the MSLQ are Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, Control Beliefs about Learning, Self-efficacy for Learning and Performance, and Test Anxiety. Four-hundred-twenty-eight first-time, full-time freshmen students were administered the MSLQ on the second day of a one-credit hour freshmen orientation course. Multiple regression was used to investigate the relationship between the motivational factors and students' academic success (grade) in the course.

No statistical significance was found in this study to support the hypotheses concerning the relationship between motivation and academic success in freshman orientation. Analysis of variance of the mean scores did find significant differences between academically prepared students and academically underprepared students in four of the six motivational factors studied. Implications of the findings for freshmen orientation programs are discussed.

TABLE OF CONTENTS

	Page
Table of Contents	i
List of Tables	v
Acknowledgements	vi
Chapter One: Introduction	1
Statement of the Problem	1
Purpose of the Study	3
Research Questions	5
Motivational Assessment	5
Definition of Terms	6
Intrinsic Goal Orientation	6
Extrinsic Goal Orientation	6
Task Value	7
Control of Learning Beliefs	7
Self-Efficacy for Learning and Performance	7
Test Anxiety	8
Limitations of Study	8
Chapter Two: Review of the Literature	11
Theories of Motivation	11
Volition/Will	11
Instincts	12
Freud	12

Conditioning Theories 13

Connectionism 13

Classical Conditioning 14

Operant Conditioning 15

Drive Theories 17

Humanistic Theories 17

Social Cognitive Theories 19

Self-Efficacy 20

Locus of Control 21

Goal Orientation and Values 23

Intrinsic Motivation 24

Extrinsic Motivation 25

Task Value 26

Test Anxiety 26

Assessment of Motivation 27

Summary 33

Chapter Three: Methodology 35

Preliminary Study 35

The Study of Motivation 36

The Sample 36

Instrumentation 37

Variables 39

Treatment 42

Research Hypotheses 43

Analysis 43

Chapter Four: Results 44

Overview 44

Research Hypotheses 48

General Approach 48

Research Hypothesis One 49

Research Hypothesis Two 49

Research Hypothesis Three 50

Research Hypothesis Four 50

Research Hypothesis Five 50

Research Hypothesis Six 51

Mean Differences 51

Chapter Five: Discussion 53

Introduction 53

Methodology 53

Conclusions 56

Research Hypothesis one 56

Research Hypothesis two 56

Research Hypothesis three 57

Research Hypothesis four 57

Research Hypothesis five 58

Research Hypothesis six 58

Implications 59

Suggestions for Additional Research 62

Recommendations 63

References 66

Appendix A 76

Demographic Questionnaire 77

Appendix B 78

Human Subjects Research Approval 79

Informed Consent 80

Appendix C 81

Motivated Strategies for Learning Questionnaire 82

Appendix D 101

Research Approval Letter 102

Preliminary Study Data 103

LIST OF TABLES

Table		Page
1	Means and Standard Deviations	45
2	Correlations of Prepared Students	46
3	Correlations of Underprepared Students	46
4	Beta Coefficients and t test for Prepared Students	47
5	Beta Coefficients and t test for Underprepared Students	48
6	Analysis of Variance of the Means	52
7	Sample Means Comparisons	55

ACKNOWLEDGEMENTS

An endeavor such as this is never the sole accomplishment of one individual. I would like to thank the administration of Hutchinson Community College, especially Dr. Edward Berger, President, and Mr. Randy Myers, Dean of Student Services, for their support and encouragement of my work at Kansas State University. I also extend thanks to my colleagues and co-workers in the Student Services Department for their patience, support, and understanding.

The instruction, advise, and direction provided by the faculty of the Counseling and Educational Psychology Department at Kansas State University has been invaluable. Special thanks to each member of my committee for contributing their time, expertise, and insight. I particularly wish to thank Dr. Stephen Benton for modeling and instilling in me an appreciation for the discipline required in behavioral research.

To Dr. Margery Neely, my major advisor and mentor, I owe a great debt of gratitude. Without the encouragement of Dr. Neely I would never have begun this journey. Her firm yet empathic guidance has provided a solid foundation supporting this effort. Dr. Neely exemplifies the role of teacher and I will be forever grateful to have had the opportunity to be her student.

A special note of thanks to my wife, Marcia, for enduring with unwavering faith hours of confused and doubtful ranting and extended lapses of thoughtful silence. For the consistent support of family and friends, who routinely expressed greater confidence in me than I personally felt, I am tremendously grateful

Chapter One: Introduction

> The passive offering of student services, programs, and opportunities is not enough, in most cases, to meet the needs of students. An active, dynamic approach is necessary to reach the students who might otherwise leave without ever bothering to consult a college faculty member or official, without finding the answers that could have made a difference (Beal & Noel,1980, p. 94).

Community college faculty across the country are joining with educators at all levels in their concern over how to "motivate" their students. Through open admissions policies, community colleges are enrolling more and more students who are psychologically, socially, and academically unprepared for the high expectations of traditional college challenges. "Many such 'socially handicapped' persons are characterized by feelings of powerlessness, worthlessness, alienation" (Roueche & Mink, 1975, p. 3). Such individuals often exhibit inappropriate adaptive behavior such as delinquency, hostility, unrealistic levels of aspiration, and a lack of verbal and occupational skills necessary in our technological society (Roueche & Mink, 1975).

Statement of the Problem

The burden of responding to this growing population of underprepared college students falls heavily on community colleges. State funded universities have shifted this responsibility by the establishment of minimum admission standards limiting open enrollment at such educational institutions. Kansas recently became the last state in the United States to establish qualified admissions. At the same time educational institutions at all levels face increased demands of accountability. According to A SCANS Report for

America 2000 (The Secretary's Commission on Achieving Necessary Skills, 1991) the schools of today: (1) focus on the development of basic skills; (2) provide testing separate from teaching; (3) have students work as individuals; (4) are hierarchically sequenced; (5) have supervision by the administration; and (6) provide opportunities for only the elite students to learn and think. This report, established by the Secretary of Labor, goes on to describe the vision of business and industry for schools of tomorrow. The schools of tomorrow: (1) focus on the development of thinking skills; (2) make assessment an integral part of teaching; (3) have students work cooperatively in problem solving; (4) provide opportunities for skills to be learned in the context of real problems; (5) are centered upon the learner and are teacher-directed; and (6) provide the opportunity for all students to learn to think.

The United States government is already moving towards making this vision of education a reality. Work place competencies generated for vocational programs reflect this vision of education. Vocational education monies from the federal government require all recipients to document the type of education being provided within the context of these vocation/technical programs. Additionally, efforts are underway to extend such efforts to other areas of the college curriculum.

Along with the powerful influence of business and industry, accreditation agencies (e.g., the North Central Association) have come to demand more from educational institutions in regard to institutional effectiveness. In order to maintain accreditation and, in some cases institutional funding, colleges and universities must be able to document institutional effectiveness.

Purpose of the Study

Opinions about the role of motivation in academic achievement and what can be done about it vary widely among faculty, administrators, and student services professionals involved in education at the college level. Consideration about unmotivated students opens a pandora's box of questions: Can anything be done for these students? Can motivation be taught? What kind of strategies can be used to influence student motivation? Is this time wasted that might better be used on those students who are already motivated?

Many institutions have attempted to solve these problems through the initiation of remedial or developmental programs. National studies, however, indicate that developmental instruction programs have been unsuccessful. Developmental studies programs have maintained high retention rates while students were in the programs, but then experienced accelerated attrition once the students returned to traditional classrooms (Roueche & Kirk, 1973).

Successful remedial and study strategies courses aimed at the underprepared student have demonstrated that those who really want to improve their skills can do so with motivation. The failure of these programs to impact positively the underprepared and unmotivated student demonstrates that for those who are underprepared and unmotivated, the greater problem is motivation (Kelly, 1988).

Motivational problems are not limited however to the underprepared. Many capable students drop out of classes midway through the semester for a variety of reasons: they suddenly have to work during the hours that the class meets, they attend class but never seem to find the time to do the outside required work, they have many other commitments and activities that get in the

way, or they may spend a great deal of time working on some classes but not on others (Kelly, 1988).

An important consideration in the study of motivation is early identification of students with low motivation. The problem was addressed in this study by the assessment of students enrolled in a freshman orientation course, Success Seminar/College Orientation. Research clearly indicates that the freshman year is a critical period during which students are most likely to withdraw from higher education. At least one half of all students who drop out of college will do so during their freshmen year (Noel, 1985; Terenzini, 1986). Many of these student will leave during the first six to eight weeks of their initial semester according to Blanc, Debuhr, and Martin (1983). In American higher education, beginning college students are more likely to leave their initial institution than to stay and complete their degree. For instance, in 1986, approximately 2.8 million students began college for the first time. An estimated 1.6 million of these students would leave their first institution without receiving a degree, and approximately 75% of these students who depart would leave higher education altogether without ever completing a degree program (two-year or four-year) (Tinto, 1987).

Systematic and comprehensive assessment of students at entry is a strategy that is recommended often for promoting student development and institutional effectiveness (Adelman, 1986; Jacobi, Astin, & Ayala, 1987). The freshman seminar functions as an effective vehicle for overcoming the common roadblocks of finding enough time and getting enough students. Furthermore, including entry testing as an early component of the freshman seminar may also serve to heighten student interest and effort in the assessment process because

it becomes an in-class activity associated with a credit-earning course (Cuseo, 1991).

The problem of devising effective strategies that influence student motivation relies initially on the identification of specific motivational factors. The purpose of this study is the identification of factors that are individually and jointly related to student motivation. The successful identification of specific motivational factors enhances the prospect for future research in the development of motivational strategies used in early intervention with low motivation community college students.

Research Questions

The problem and purpose of assessing motivational factors is formulated in the following research questions:

1. How much of the variance in academic success can be explained by identified motivational factors?
2. Which motivational factors and which combination of factors contribute most to the variance explained?

Motivational Assessment

As the evidence in a review of the literature clearly demonstrates, the histories of psychology and education are abundant with research on motivation and its effect on behavior. The study of motivation in education has undergone many changes over the years, moving away from reinforcement contingencies to the more current social-cognitive perspective emphasizing learners' constructive interpretations of events and the role that their beliefs, cognitions, affects, and values play in achievement. Although considerable disagreement exists among experts about what processes are involved in

motivation, this research relies on the current social-cognitive perspective. Pintrich and Schunk (1996) state that motivation involves processes that occur as individuals instigate and sustain goal directed actions.

The Motivated Strategies for Learning Questionnaire (MSLQ) is a self-report instrument designed to assess college students' motivational orientation and their use of different learning strategies for a college course. The MSLQ is based on a general cognitive view of motivation as a theoretical framework (McKeachie, Pintrich, Lin, & Smith, 1986). The MSLQ is used in this research to identify specific motivational factors relative to student success.

Definition of Terms

Intrinsic Goal Orientation

Goal orientation refers to the student's perception of the reasons why she is engaging in a learning task. Intrinsic goal orientation concerns the degree to which a student perceives herself to be participating in a task for reasons such as challenge, curiosity, and mastery. Having an intrinsic goal orientation toward an academic task indicates that the student's participation in the task is an end all to itself, rather than participation being a means to an end (Garcia, McKeachie, Pintrich, & Smith, 1991).

Extrinsic Goal Orientation

Extrinsic goal orientation complements intrinsic goal orientation, and concerns the degree to which the student perceives herself to be participating in a task for reasons such as grades, rewards, performance, evaluation by others, and competition. When one is high in extrinsic goal orientation engaging in a learning task is the means to an end. The main concern the student has is

related to issues that are not directly related to participating in the task itself (Garcia et al., 1991).

Task Value

Task value which differs from goal orientation, refers to the student's evaluation of how interesting, how important, and how useful the task is ("What do I think of this task?"). High task value should lead to more involvement in one's learning. Task value refers to students' perceptions of the course material in terms of interest, importance, and utility (Garcia et al., 1991).

Control of Learning Beliefs

Control of learning refers to students' belief that their efforts to learn will result in positive outcomes. It concerns the belief that outcomes are contingent on one's own effort, in contrast to external factors such as the teacher. If students believe that their efforts to study make a difference in their learning, they should be more likely to study more strategically and effectively. That is, if the student feels that she can control her academic performance, she is more likely to put forth what is needed strategically to effect the desired changes (Garcia et al., 1991).

Self-Efficacy for Learning and Performance

Self-efficacy for learning and performance comprise two aspects of expectancy: expectancy for success and self-efficacy. Expectancy for success refers to performance expectations, and relates specifically to task performance. Self-efficacy is a self-appraisal of one's ability to master a task. Self-efficacy includes judgments about one's ability to accomplish a task and one's confidence in one's skills to perform that task (Garcia et al.,1991).

Test anxiety

Test anxiety has been found to be negatively related to expectancies as well as to academic performance. Test anxiety is thought to have two components: a worry, or cognitive component, and an emotionality component. The worry component refers to students' negative thoughts that disrupt performance, whereas the emotionality component refers to affective and physiological arousal aspects of anxiety. Cognitive concern and preoccupation with performance have been found to be the greatest sources of performance decrement. Training in the use of effective learning strategies and test-taking skills should help reduce the degree of anxiety (Garcia et al.,1991).

Limitations

Issues of the creditability of this research must necessarily be addressed. The question of causality is an important concern in behavioral research that is not addressed in correlational study. Correlation research was used in this study as a means of establishing a foundation for future experimentation directed at the development of specific strategies to influence motivation among college students.

Another limitation of the study is found in the make-up of the sample. First, the sample is limited to full-time students who in many community colleges may represent only about half of or even less of the total student population by head count. The decision to use only full-time students was made on the basis that there are likely significant differences in the characteristics of full-time and part-time students relative to the objectives of this study. In general, part-time community college students are likely to be older than full-time students and, consequently, are more likely to be occupied with commitments outside of the

college environment such as marriage, family, and jobs that preclude opportunities to participate in either social or academic experiences that may be available at the community college (Voorhees, 1987). Secondly, the use of Success Seminar/College Orientation as a common course required of all student subjects is not required of part-time students. It may also be questionable to what extent a sample of students from a moderately small rural community college is representative of students nationally. It would seem reasonable to assume however that the findings of this study would likely generalize to many colleges that are demographically similar.

Another demographic consideration is ethnicity. Voorhees (1987) states that reports suggest that there is no significant difference in attrition rates between minority students and whites when other factors, such as academic ability (controlled for in this study) and socio-economic status, are controlled. Thus ethnicity was not included. Voorhees (1987) goes on to state that there is little empirical evidence that males and females differ significantly in their persistence patterns. Therefore, gender did not need to be controlled in this study.

Reviewers of quantitative research are concerned with practical as well as statistical significance. Dr. Paul Pintrich, leader in the research and development of the MSLQ, concurs with the following statements regarding practical significance of this study: 1) Because of the many factors found that may influence academic success, finding statistical significance even in a large sample as used in this study, is still of practical significance. 2) Finding statistical significance in a one credit hour course such as Success Seminar/College Orientation, is likely more difficult than finding statistical

significance in a more academically challenging course worth more credit. 3) Since the MSLQ was developed for use at the course level, correlations with semester GPA or credit hours completed would be an inappropriate use of the instrument.

Chapter 2: Review of the Literature

Theories of Motivation

At the beginning of the twentieth century, motivation was an ill-defined concept falling in the purview of the newly emerging discipline of psychology. Views of motivation were rooted heavily in philosophy and were conceptualized in two prominent views (a) volition/will, and (b) instincts (Pintrich & Schunk, 1996).

Volition/Will

Wilhelm Wundt, who helped establish psychology as a science with the first psychological laboratory in Germany in 1879, studied volition. Wundt saw volition as a central, independent factor in human behavior. Volition presumably accompanies such processes as sensation, perception, attention, and formation of mental associations, and helps translate our thoughts and feelings into actions. Wundt's ideas were very general and difficult to validate (Pintrich & Schunk, 1996).

William James, American pioneer of psychology, also studied volitional acts. James saw Will as a state of mind in which we desire a particular action and belief that is its manifestation. Volition is the process of translating intentions into action. At times, a mental representation of the act is sufficient to motivate action, but at other times, an additional element "in the shape of a fiat, mandate, or express consent, has to intervene and precede the movement" (James, 1890, p. 522).

Ach (as cited in Pintrich & Schunk, 1996) pioneered the experimental study of volition. Ach conceived of volition as the process of dealing with the implementation of actions designed to attain goals--a narrow view of motivation

that does not address the process whereby people formulate goals and commit themselves to attaining them (Heckhausen, 1991).

According to Ach (1958) action is determined by the tendencies to attain the goal. Ach referred to the processes that allowed goals to be translated into action as determining tendencies. Ach identified four phenomenological aspects representing reactions to obstacles encountered while attempting to attain goals: (a) subjective aspect (physical sensations of bodily tension); (b) objective aspect (ideas the individual has about performing the intended action, the goal associated with the prompting stimuli, and the appropriate time to implement the intended action); (c) ego-related aspect (intensifying intentions while excluding other possible actions); and (d) state-related aspect (the individual's awareness of the effort required to attain the goal).

Wundt, James, and Ach addressed motivation in the sense of volition, or a willing to action. In addition to being vague and difficult to test empirically, volitional theories ignored or downplayed how people formulate goals (Pintrich & Schunk, 1996).

Instincts.

Another early perspective of motivation stressed the role of instincts. McDougall (1926) hypothesized that all behavior is instinctive. Instincts are not simply dispositions to act in particular ways, but rather comprise cognitive (awareness of ways to satisfy instinct), affective (emotions aroused by instinct), and conative (striving to attain the goal of the instinct) components.

Freud

Another early theory of behavior relative to motivation is that of Sigmund Freud, one of the most influential persons in the history of psychology. Freud

conceived of motivation as psychical energy which builds up in the Id, a personality structure devoted to the attainment of basic needs. Needs are satisfied by channeling energy into behaviors that reduce needs. Energy can also be repressed. Repressed energy manifests itself in distorted ways (neurotic behavior), for example, repressed sexual energy can disguise itself as overeating (Freud, 1966). Freud's theory is extensive, some aspects of which have been shown to be valid, others have not received support (Weiner, 1985). The assumption that motivation stems from inner forces that are unconscious downgrades the importance of personal and environmental factors that are educationally significant. The emphasis on instinct, however, remains influential in modern psychology as evidenced by the "nature-nurture" controversy over how much of human behavior is learned and how much is inherited (Pintrich & Schunk, 1996).

Conditioning Theories

Early in this century conditioning theories became preeminent in the United States and remained dominant in psychology during the first half of the century. Behaviorists such as Thorndike, Pavlov, and Skinner emphasized the association of stimuli with responses as the mechanism responsible for behavior. These theories are relevant to the study of motivation because at the behavioral level motivation involves the probability or rate of responding. According to conditioning theory, any complex behavior can be reduced and explained by a set of principles that can be applied to all aspects of behavior (Pintrich & Schunk, 1996).

Connectionism. Thorndike (1913) in his view of learning and behavior contended that learning involves the formation of associations between

experiences (perceptions of stimuli or events) and neural impulses that manifest themselves behaviorally. Organisms find themselves in problematic situations where they attempt to reach a goal. Learning occurs gradually through a process of attempting various responses; successful responses become established and unsuccessful ones are abandoned. The law of effect emphasizes the consequences of behavior as contributing to learning.

> A central principle is the Law of Effect: When a modifiable connection between a situation and a response is made and is accompanied or followed by a satisfying state of affairs, that connection's strength is increased.... (Thorndike, 1913, p. 4)

In addition to the motivational consequences of rewards and punishments, another relevant idea to motivation is the law of readiness.

> When any conduction unit is in readiness to conduct, for it to do so is satisfying. When any conduction unit is not in readiness to conduct, for it to conduct is annoying. When any conduction unit is in readiness to conduct, for it not to do so is annoying. (Thorndike, 1913, p. 2)

An important implication is that students are motivated when they are ready to work at an activity and when the consequences of engagement are pleasurable (Pintrich & Schunk, 1996).

Classical Conditioning. Pavlov's classical conditioning theory (Pavlov, 1927) is considered important in the field of learning and is applicable to motivation. Classical conditioning involves presenting an unconditioned stimulus (UCS) to elicit an unconditioned response (UCR). The (UCS) is then paired with a neutral stimulus which eventually becomes a conditioned stimulus (CS) that, on its own, will elicit a conditioned response (CR). In a prototypical

experiment, a hungry dog salivates (UCR) when presented with meat powder (UCS). Conditioning involves briefly presenting a neutral stimulus (e.g., a ticking metronome) before presenting the UCS. Eventually, the dog salivates in response to the ticking metronome. The metronome has become a conditioned stimulus (CS) that elicits a conditioned response (CR).

Similarly, emotional reactions can be conditioned to neutral stimuli by pairing them with UCS's that produce reactions. Students, for example, may develop anxious reactions to teachers, classrooms, or buildings as a function of their being paired with aversive events (e.g., test failure). Pavlov's theory of classical conditioning has many interesting concepts for consideration in the study of motivation and education. The idea that learning should be accompanied by pleasurable consequences is important in the classroom. That conditioned emotional reactions occur is readily seen in cases of test anxiety. Pavlov's theory, however, offers a passive view of motivation and ignores important cognitive processes (Pintrich & Schunk, 1996). More recent research shows that learners are mentally active and exert much control over their learning and motivation (Ames, 1984).

Operant Conditioning. B. F. Skinner's (1953) operant conditioning theory is an influential theory in regard to motivation in education. This theory examines behavior as a function of external variables. In operant conditioning a stimulus sets the occasion for a response to be emitted, which is followed by a consequence. A consequence is any stimulus or event that affects the future rate of responding or the probability that the response will be emitted when the stimulus is present. Reinforcement increases the rate or likelihood of the response occurring. Positive reinforcement involves presenting a positive

reinforcer contingent on a response. Students who work productively in a class may be praised by the teacher. If students then are more likely to work productively, we would say that they were positively reinforced.

A negative reinforcer is a stimulus that, when removed following a response, increases the rate or likelihood of the response occurring. Negative reinforcement involves removing an unpleasant condition contingent on a response. Students who work productively may be told by a teacher that they do not have to do any homework. If students continue to work productively, we say that home work is a negative reinforcer and that its removal is negative reinforcement.

Punishment decreases the rate or likelihood of responding. Punishment may involve either removing a positive reinforcer or presenting a negative reinforcer following a response. Suppose students are wasting time. The teacher may take away their free time or assign homework. In this case students were punished for wasting time by having a positive reinforcer (free time) taken away or a negative reinforcer (homework) presented.

Operant conditioning presents a limited explanation of motivation. Students display motivated behavior strictly as a result of their reinforcement history. Internal processes such as needs, drives, cognitions, and emotions are not necessary to explain motivated behavior (Pintrich & Schunk, 1996).

Although motivation and learning are related, they are not synonymous with one another (Schunk, 1991a). Although reinforcement and punishment motivate students, their effects are not automatic but rather depend upon student's beliefs. Students engage in activities that they believe will be reinforced and avoid activities they believe will be punished (Bandura, 1986).

When reinforcement history conflicts with present beliefs, people are more likely to act on their beliefs (Brewer, 1974).

Drive Theories

Unlike conditioning theories, drive theories emphasize the contribution of internal factors that motivate behavior. Drives are internal forces that seek to maintain homeostasis, or the optimal states of bodily functions. An organism experiences a need because of deprivation of an essential element (e.g., food, air, water), activating a drive causing the organism to respond. When the element is obtained drive is reduced and the need is satisfied. Early drive theories that focused on physiological needs were expanded to include psychological needs. Important contributors to drive theories are Woodworth, Hull, Spence, Mowrer, and Miller (Pintrich & Schunk, 1996).

Humanistic Theories

Considered the third force in psychology, humanistic theories emphasize people's capabilities and potentialities. Humanistic theories stress that individuals have choices and seek control over their lives. This view is an important assumption in the study of intrinsic motivation. There are common assumptions among humanistic theorists (Weiner, 1985b). One assumption is that the study of humans should be holistic. Humanists emphasize individuals' subjective awareness of themselves and their situations rather than the behaviorist approach of studying individual responses to discrete stimuli.

A second assumption of the humanistic perspective is that human choices, creativity, and self-actualization are important areas of study (Weiner, 1985). The uniquely human aspect of motivation asserts itself in the study of

human psychological functioning, creativity, and maximizing capabilities and potential.

The third assumption of humanistic theorists is that methodology is less important in research than the subject of study. Humanists contend that psychological research is replete with complex methodology applied to trivial problems. It is more important from the humanistic view to study an important problem (e.g., human motivation) with a less refined methodology than to study a trivial problem with a complex methodology (Pintrich & Schunk, 1996).

Two of the best known humanistic theorists are Maslow and Rogers. Maslow (1954) emphasizes motivation to develop one's full potential (self-actualization). Rogers believed this process to be innate and labeled it the actualizing tendency.

> We are, in short, dealing with an organism which is always motivated, is always "up to something," always seeking. So I would reaffirm . . . my belief that there is one central source of energy in the human organism; that it is a function of the whole organism rather than some portion of it; and that it is perhaps best conceptualized as a tendency toward fulfillment, toward actualization, toward the maintenance and enhancement of the organism. (Rogers, 1963, p. 6)

Rogers (1969) applied his theory to education in the book Freedom to Learn. Rogers believes that people have a natural potential for learning, are curious about their world, and are eager to learn.

> I become very irritated with the notion that students must be "motivated." The young human being is intrinsically motivated to a high degree. Many elements of his environment constitute challenges for him. He is curious, eager to discover, eager to know, eager to solve problems. A sad part of most education is that by the time the child has spent a number of years in school this intrinsic motivation is pretty well dampened. Yet it is there and it is our task as facilitators of learning to tap that motivation, to discover what challenges are real for the young person, and to provide the opportunity for him to meet those challenges. (Rogers, 1969, p. 131)

Helping people strive for challenges and maximizing potential are important and Roger's theory has seen wide psychotherapeutic application. However, the theory is developed only in general terms and is replete with technical constructs that are difficult to define and measure (Pintrich & Schunk, 1996). Rogers emphasizes striving toward growth, but this process is vaguely defined. Much research shows that specific goals motivate individuals better than general ones (Locke & Latham, 1990).

Social Cognitive Theories

Current theories of motivation and learning view students as active seekers and processors of information (Bandura, 1986; Pintrich, Cross, Kozma, & McKeachie, 1986). This view growing from a general cognitive perspective on motivation makes use of the expectancy construct in contrast to earlier behavioral models of motivation which relied strictly on reward and punishment.

The cognitive notion of expectancy replaced the mechanistic behavioral view. Cognitive motivational theories became concerned with how individuals make decisions about which goals or paths they will choose to pursue and which direction in which they will focus their innate energy, curiosity, and activity (Pintrich & Schunk, 1996)).

Early contributors to the role of expectancy (Lewin, Dembo, Festinger, and Sears, 1944) proposed that the construct of Level of Aspiration could capture this decision making process. Level of Aspiration is defined as the goal or standard that individuals set for themselves in a task, based on past experience and familiarity with the task. Atkinson's model of achievement motivation combined the constructs of needs, expectancy, and values (Atkinson, 1964). Early cognitive models of motivation stressed the importance of the individual's perceptions and beliefs as mediators of behavior, thereby focusing motivational research on the subjective and phenomenological psychology of the individual (Pintrich & Schunk, 1996).

Self-efficacy. Most prominent among current expectancy models of motivation is Bandura . Bandura (1986) proposed a general social cognitive model of cognition and behavior that has been applied to many different domains of human behavior, including academic achievement (Lent, Brown, & Larkin, 1984, 1987; Mone, Baker, & Jeffries, 1995; Multon, Brown, & Lent, 1991; Wood & Locke, 1987) In his original social learning theory, Bandura (1969, 1977) proposes self-efficacy as a major construct.

Self-efficacy is defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). A significant contribution of Bandura's

self-efficacy construct is the theory's more specific and situational view of perceived competence in terms of including the behavioral actions or cognitive skills that are necessary for competent performance. Mone, Baker, and Jeffries (1995) found self-efficacy had greater predictive validity than self-esteem and was more affected by personal goals and performance. Secondly, self-efficacy is used in reference to some type of goal. The implication of the inclusion of a specific goal is that self-efficacy judgments for very similar tasks may vary as a function of intraindividual or environmental differences. For example, a student's self-efficacy for learning a particular topic in mathematics may be lower because of the difficulty of the material to be learned in contrast to material covered earlier in the course (Pintrich & Schunk, 1996). In a study of self-efficacy and writing skills, perceptions of self-efficacy for writing influenced both perceived academic self-efficacy and personal standards for the quality of writing considered self-satisfying. Perceived academic self-efficacy influenced writing grade attainments both directly and through its impact on personal goal setting (Zimmerman & Bandura, 1994).

Locus of Control. Locus of control , a generalized belief about the extent to which behaviors influence outcomes (successes, failures), originated with Rotter (1966) in his social learning theory. People with an external locus of control believe their actions have little impact on outcomes and there is little they can do to alter them, whereas those with an internal locus of control believe that outcomes are contingent on their actions and largely under their control. Rotter (1966) states:

> When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control. (p. 1)

Locus of control is postulated to affect learning, motivation, and behavior. Students who believe they have control over whether they succeed or fail should be more motivated to engage in academic tasks, expend effort, and persist on difficult material than students who believe their efforts have little effect on outcomes (Pintrich & Schunk, 1996).

Research supports the relationship between locus of control and motivation and academic achievement in school. Phares (1976) found that individuals with an internal locus of control make greater efforts to attain mastery over their environment . Research on the locus of control construct was extremely popular in the 1960s and 1970s. Current research still supports the predictability of the construct. In a study of undergraduate students Martel, McKelvie, and Standing (1987) found personal responsibility (locus of control) to be the best single predictor of subject's mean course grade. Following

Rotter's locus of control construct, Trice (1985) developed an academic locus of control scale measuring beliefs of personal control over academic outcomes. Using final exam scores, Trice found that scores significantly correlate with measures of locus of control and achievement motivation. As a general construct, Martin and Dixon (1989) found locus of control yielded significance in a study of adjustment to college among freshmen orientation students.

Although there has been considerable research on the locus of control construct, in general, and on motivation and education specifically, the general locus of control construct has been superseded by other constructs that represent a more refined analysis of the role of control beliefs (e.g., Connell, 1985; Peterson, Maier, & Seligman, 1993; Skinner, Chapman, & Baltes, 1988). Weiner (1986) has shown in both logical and empirical analyses that the locus of control construct systematically compounds two dimensions that need to be separated theoretically and practically: one regarding the internality-externality and the other concerning the controllability-uncontrollability of an event.

Goal orientation and values. Expectancy theories, though significant contributors to the study of motivation, do not directly address the issue of what energizes behavior. The Latin word "motive" means to move, and most motivational theories propose a construct which provides the "energy" to move organisms to act and also the direction in which to act. Current cognitive motivational theories identify goals as this "energy" source (Pintrich, Schunk, 1996). Early theories of motivation focusing on drives, instincts, and needs as offered by Freud, Murray, and Maslow, though intuitively attractive, are

generally found redundant and parsimonious by current motivational theorists (Pintrich & Schunk, 1996).

Emerging research on motivation focuses on achievement goals. Ames (1992b) states a goal "defines an integrated pattern of beliefs, attributions, and affect that produces the intentions of behavior. . . represented by different ways of approaching, engaging in, and responding to achievement-type activities".

Two types of goal orientation have been identified. Performance goals (Extrinsic) and mastery goals (Intrinsic). Those who hold performance goals are concerned primarily with demonstrating their ability (or concealing a perceived lack of ability) by out- performing others. Those who hold mastery goals want to develop their competence on a task or increase their understanding of a subject (Archer, 1994).

Intrinsic motivation. Intrinsic motivation refers to motivation to engage in an activity for its own sake. People who are intrinsically motivated work on tasks because they find them enjoyable. Task participation is its own reward and does not depend on explicit external rewards (Pintrich & Schunk, 1996).

Intrinsic motivation is an innate human need and begins in infants as an undifferentiated need for competence and self-determination (Deci & Porac, 1978). Deci (1980, p.26) defined intrinsic motivation as "the human need to be competent and self-determining in relation to the environment". Intrinsic motivation leads people to seek out and master challenges that satisfy their needs to be competent and self-determining. To be self-determining people have to decide how to act on their environment. If challenges are too easy, they will seek more difficult ones, if too difficult, they may abandon their efforts (Pintrich & Schunk, 1996).

Research evidence supports the hypothesis that intrinsic motivation relates positively to perceived competence and internal control (Harter, 1981; Harter & Connell, 1984). Students with learning problems often fail and believe they lack the competence to do well, which lowers their intrinsic motivation (Licht & Kistner, 1986; Schunk, 1989).

Extrinsic motivation. In contrast to intrinsic motivation, when people work on a task to obtain a reward they are considered to be extrinsically motivated. Rewards convey information about one's skills when linked to actual performance or progress such as receiving praise from a teacher for learning new skills. People who derive such performance information from rewards feel empowered and experience self-determination. Interest is sustained even when the reward is removed because people place the locus of causality inside themselves (develop a desire to learn) (Pintrich & Schunk, 1996).

Research studies show that the use of rewards can be detrimental on high intrinsic motivation. Lepper, Greene, and Nisbett (1973) provided evidence for the detrimental effects of rewards on intrinsic motivation. In an experiment with children involved in drawing during free time (an intrinsically motivated activity), children who were offered a reward for drawing lost interest and spent less time on the activity. Enhancing motivation requires that rewards be linked with the development of competencies. Rewards tied to skill acquisition (e.g., points given based on mastery of skills) inform students that they are developing competence and raise self-efficacy (Cameron & Pierce, 1994; Schunk, 1991b).

Task value. If you asked most people their definition of motivation they would likely include some aspect of interest in their answer. Researchers investigating personal interest have conceptualized it as a personality trait or characteristic that is a relatively stable and enduring disposition of the individual (Krapp, Hidi, & Renninger, 1992). Personal interests are usually assumed to be directed toward some specific activity or topic such as sports, science, music, computers, etc. Career choice literature has focused on assessing individual's interest in different activities related to careers (Pintrich & Schunk, 1996).

In contrast, situational interest has been defined by researchers as interest that is generated mainly by environmental conditions. Situational interest (i. e., travel or a surprise gift) may be tied to very specific content and may develop into a personal interest (Hidi & Anderson, 1992).

Interest as a psychological state reflects an interactive and relational perspective on interest whereby an individual's personal interest interacts with environmental features to produce the psychological state of interest (Krapp et al., 1992). Interest as a psychological state is conceptualized as occurring only when the individual has both high value for an activity (choosing to do it, thinking it is important) and high stored knowledge about the activity (Renninger, 1990,1992). Schiefele (1991) has shown that college students' personal interest was positively related to the use of deeper cognitive processing strategies such as elaboration, seeking information when confronted with a problem, engagement in critical thinking, and self-reported time and effort investment.

Test Anxiety. A general definition of test anxiety is "an unpleasant feeling or emotional state that has physiological and behavioral concomitants,

and that is experienced in formal testing or other evaluative situations" (Dusek, 1980, p. 88). Most theorists of test anxiety believe test anxiety is composed of a cognitive component and an affective or emotionality component (Wigfield & Eccles, 1989).

The cognitive, or worry component refers to the thoughts that accompany anxiety, such as worrying about flunking the test, thinking about the consequences of failing the test, worrying about being unable to finish the test in the allotted time, and worrying about being embarrassed by making a poor grade, and similar cognitions (Pintrich & Schunk, 1996). The emotionality component refers to the actual physiological and emotional arousal individuals experience taking a test. Such arousal can become a classically conditioned affective response to evaluative experiences. For test anxious people, this anxiety becomes overwhelming and interferes with their ability to perform the task. Highly test anxious people tend to experience anxiety in most testing or evaluative situations (Pintrich & Schunk, 1996). A meta-analysis of 562 studies that related test anxiety and academic achievement found that test anxiety does cause poor performance, is negatively related to self-esteem, and is directly related to students' fear of negative evaluation (Hembree, 1988).

Assessment of Motivation

Various methods have been used by researchers in their efforts to assess motivation. These methods typically include direct observation, ratings by others, and self-reporting.

Direct observation has focused on behaviors such as choice of tasks, effort expended, and persistence. Direct observation approaches have the advantage of little interference on the part of the researcher but by focusing on

overt actions may be superficial and ignore the cognitive and affective processes underlying motivated behavior (Pintrich & Schunk, 1996).

Ratings by others (e.g., teachers, parents, researchers) have the advantage that others may be more objective about subjects than subjects are about themselves. A disadvantage of ratings by others is the reliance on inference by the raters. It may be difficult to judge subjects' levels of cognitive engagement, interest in learning, and so forth (Pintrich & Schunk, 1996).

Self-reports are used to capture subjects' judgments and statements about themselves. Self-reporting typically involves the use of questionnaires that present the respondents with items or questions asking their actions and beliefs. A special type of questionnaire is the projective measure. Projective measures are based on assumptions of subjects' underlying personality characteristics that influence underlying motives. Ambiguous materials are used to allow subjects to unconsciously project their motives and fantasies onto the situation (Pintrich & Schunk, 1996).

The best known projective measure of achievement motivation is the Thematic Apperception Test (TAT). The TAT was developed by Murray (1938) to study personality processes and subsequently adapted by McClelland and his colleagues to assess achievement motivation (McClelland, Atkinson, Clark, & Lowell, 1953). Although the TAT has been employed in numerous research studies, it has been found to suffer from problems of low reliability and weak correlations (Weiner, 1985). A more popular and reliable questionnaire approach used in motivational research is the objective questionnaire. Such questionnaires ask respondents to record reponses to questions about what types of activities they engage in and how often and how long they engage in

them by marking ratings on a numerical scale from *not at all true of me* (1) to *very true of me* (7), for example (Pintrich & Schunk, 1996).

The use of rating scales in social learning theory ranges from extensive use of Rotter's I-E Locus of Control Scale (1966), to numerous adaptions of the expectancy construct including Bandura's (1969, 1977) self-efficacy construct. In 1982, a general self-efficacy scale was developed by Shereer, Maddux, Mercandante, Prentice-Dunn, Jacobs, and Rogers (1982). Special adaptions of the self-efficacy construct include a study of the validity of self-efficacy as a predictor of writing performance (Meier, McCarthy, & Schmeck, 1984) and a study of the relation of self-efficacy expectations to academic achievement and persistence in technical/scientific college majors (Lent, Brown, & Larkin, 1984). Robert Lent further found significance in the relation of self-efficacy to interest congruence and consequence thinking in predicting academic behavior (Lent, Brown, & Larkin, 1987), as well as self-efficacy in the prediction of academic performance and perceived career options (Lent, Brown, & Larkin, 1986), and self-efficacy as a moderator of scholastic aptitude (Brown, Lent, & Larkin, 1989). A meta-analysis of the relations of self-efficacy beliefs to academic performance and persistence revealed positive and statistically significant relationships between self-efficacy beliefs and academic performance and persistence outcomes across a wide variety of subjects, experimental designs, and assessment methods (Multon, Brown, & Lent, 1991). A significant contribution of importance to educational research on motivation was the development of Wood and Locke's (1987) Academic Self-Efficacy (ASE) measure. The ASE measure was used for validation of both process (academic) self-efficacy and outcome (grade) self-efficacy by Mone (1994).

Perhaps the most comprehensive and creditable among the scale questionnaires developed in the abundant research on the expectancy construct of social cognitive theory is the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991). The MSLQ was designed and developed by a team of researchers from the National Center for Research to Improve Postsecondary Teaching and Learning (NCRIPTAL) and the School of Education at the University of Michigan. NCRIPTAL was funded for research on college populations. The MSLQ was administered at three collaborating institutions in the Midwest, a 4-year public, comprehensive university, a small liberal arts college, and a community college. There were three major waves of data collection with previous versions of the MSLQ with students from these three institutions: 1986, 1987, and 1988. The items on these previous versions of the MSLQ were subjected to the usual statistical and psychometric analyses including internal reliability coefficient computation, factor analyses, and correlations with academic performance measures. The first wave of data collected in 1986 included 326 students; the second wave in 1987 included 687 students; and, the third wave in 1988 included 758 students. After each of these waves, the data were analyzed and items revised as the conceptual model underlying the instrument was refined. The final version of the MSLQ used in this research reflects 10 years of work on these various waves of data collection (Pintrich, Smith, Garcia, & McKeachie, 1993).

The utility of the theoretical model and its operationalization in the MSLQ scales were tested by confirmatory factor analyses. Lisrel VI (Version 6.6, Joreskog & Sorbom, 1986) (as cited in Pintrich et al., 1993) was used to

estimate parameters and test the models. In contrast to exploratory factor analysis, confirmatory factor analysis required the identification of which items (indicators) should fall onto which factors (latent variables). Parameter estimates for the model specified were generated using maximum likelihood and tests for goodness-of-fit. The goodness-of-fit tests assessed how well correlations that were reproduced, given the model specified, matched-up with the input set of correlations. Simple Pearson product-moment correlations where used as input data for analyses. Each item on the MSLQ was constrained to fall on one specific latent factor. The 31 motivational items were tested to see how well they fit six correlated latent factors: (1) intrinsic goal orientation, (2) extrinsic goal orientation, (3) task value, (4) control beliefs about learning, (5) self-efficacy for learning and performance, and (6) test anxiety. Internal-consistency estimates of reliability (coefficient alphas) were computed and zero-order correlations between the different motivational scales calculated. In terms of predictive validity the performance measure was final course grade. Course grade was standardized to control for instructor grading differences. The MSLQ subscales were then correlated with student's final course grades (Pintrich et al., 1993).

The results from the internal consistency and reliability analyses and the predictive analyses are presented here. The lambda-psi estimates range from .38 to .89, with the average value .68 (median value = .66). Control of Learning Beliefs and Extrinsic Goal Orientation show the greatest variability in the magnitude of the lambda-psi estimates, with values ranging from .38 to .84 for Control of Learning Beliefs and .44 to .71 for Extrinsic Goal Orientation. Values of .8 or higher for these parameters indicate well-defined latent constructs.

Goodness-of-fit (GFI) indices for this model are GFI = .77; Adjusted GFI = .73; x2//df = 3.49; Root Mean Residual (RMR) = .07. The coefficient alphas for the motivational scales are robust, demonstrating good internal consistency. Task Value beliefs concerning students' ratings about how interesting, useful, and important the course material is to them had a very high (.90) alpha, as did students' judgments of their self-efficacy for learning (.93). The Test Anxiety and Intrinsic Goal Orientation subscales yielded good internal consistency estimates (.80 and .74 respectively). Extrinsic Goal Orientation (.62) and Control of Learning Beliefs (.68) had more variability in students' responses. Taken together, however, the factor analysis and alphas of motivational items suggest the the general model of motivational components with six scales is a reasonable representation of the data. In terms of predictive validity of the scales, the motivational subscales showed significant correlations with final grade (with a sample size of 380, correlations of .13 and above are significant at alpha = .05). Except for Extrinsic Goal Orientation, the correlations were in the expected directions as well, adding to the validity of the scales. Students who approached their course work with an intrinsic goal for learning, who believed that the material was interesting and important, who had high self-efficacy beliefs for accomplishing the tasks, and who rated themselves as in control of their learning were more likely to do well in terms of course grades. At the same time, students who reported being anxious about tests overall were less likely to do well in the course (r = -.27). Results suggest that the MSLQ seems to represent a useful, reliable, and valid means for assessing college students' motivation (Pintrich et al., 1993).

Summary

Early views of motivation found in educational psychology, though lacking many significant elements necessary for a comprehensive understanding of motivation, provided an important starting place from which modern motivational constructs have grown. There is likely little argument that volition, drives, conditioning, and self-actualization are inherent contributors to human motivation. These general concepts, however, have proven vague and difficult to measure.

The MSLQ used in this study relies on a general social cognitive model of motivation prevalent in current motivational and educational research. Three motivational constructs are used: expectancy, value, and affect.

The expectancy component assesses perceptions of self-efficacy and control beliefs for learning. The self-efficacy construct postulated by Bandura in his social-learning theory has guided extensive motivational research. Lent, Brown, and Larkin (1984, 1989), Mone, Baker, and Jeffries (1995), Multon, Brown, and Lent (1991), and Wood and Locke (1987) are cited in this study. The second expectancy construct is control beliefs for learning which is a refined construct based on Rotter's locus of control. Rotter's locus of control construct, first presented in 1966, is perhaps one of the most highly researched concepts in modern psychological study.

The value construct used in the MSLQ used in this study includes intrinsic and extrinsic goal orientation as well as task value beliefs. Cognitive views of motivation are united in their emphasis on the importance of goals. "Motivation involves goals that provide impetus for and direction to action" (Pintrich & Schunk, 1996, p. 4). Ryan, Connell, and Deci (1985) who

researched the role of intrinsic and extrinsic motivation in their "Cognitive Evaluation Theory", argue that perceptions of autonomy and competence are fundamental to intrinsic motivation. Commitment to educational attainment and learning are necessary to sustain motivation. Commitment to learning is a syndrome of variables such as belief in the value of learning.

The third motivational construct of the MSLQ is affect that is measured in terms of test anxiety. A meta-analysis of 562 studies that related test anxiety and academic achievement found that test anxiety does cause poor performance, is negatively related to self-esteem, and is directly related to students' fear of negative evaluation (Hembree, 1988).

Recent research in self-understanding and self-regulation has turned to learning and academic achievement processes. The concept of self-regulated learning describes how learners cognitively, motivationally, and behaviorally promote their own academic achievement. Theories that deal effectively with all three dimensions of students' ability to learn by themselves are needed to address contemporary educational problems such as falling retention rates.

Self-regulated learning challenges cognitive theorists to explain why and how students learn on their own and challenges motivational and behavioral theorists to explain what students need to know about themselves and academic tasks in order to learn independently (Zimmerman & Schunk, 1989). Self-regulated learning is "learning that occurs from students' self-generated behaviors systematically oriented toward the attainment of their learning goals" according to Zimmerman (as cited in Zimmerman & Schunk, 1989, p. 83). The use of the MSLQ is this study addresses the concept of self-regulated learning from a general social-cognitive view of motivation.

Chapter 3: Methodology

This chapter presents the methodology used in this study. A description of the population from which the sample was drawn, the characteristics of the sample, variables selected, research hypotheses generated, instrumentation and the treatment used are presented.

Preliminary Study

This study focuses on the relationship between motivation and academic success in a graded freshman college orientation course. A natural question arising from a critique of such a study is whether or not a relationship exists between success in an orientation course and overall success in college course work. Research has found that freshman orientation seminars produce significant effects on academic achievement. Stupka (1986) and Wilkie and Kuchuck (1989) (as cited in Cuseo, 1991) found GPAs of course participants are significantly higher than those achieved by matched control groups of non-participants . In addition, research by Potter and McNairy (as cited in Fidler & Hunter, 1989) indicates that participation in these seminars raises the academic performance of low-achieving students (as identified by below-average SAT scores and high school rank) relative to that of students with more qualified admission characteristics. Verification of this relationship was addressed by a preliminary study of the relationship between grades in the freshman orientation course (Success Seminar/ College Orientation) and first semester Grade Point Average (GPA) at The Community College.

The relationship of grades in Success Seminar/College Orientation and first semester GPA was investigated by drawing a random sample of 104 students by selecting every 6th score from an alphabetical listing of a

population of 671 students enrolled in Success Seminar/College Orientation in the Fall semester of 1995. Students in the sample transferring or otherwise having completed 12 credit hours or more of college course work were eliminated from the sample as not representative of first semester college students. Simple Pearson Product-Moment Correlation resulted in a correlation between grade in Success Seminar/College Orientation and first semester GPA of .63, r2 = .40 (data presented in Appendix D). This "large" relationship (Keppel, Saufley, Jr., & Tokunaga, 1992) provides the impetus for the investigation of motivational factors relative to academic success in Success Seminar/College Orientation.

The Study of Motivational Factors

The Sample

The sample for this study was drawn from a population of 682 full-time freshmen students entering The Community College the fall semester of 1998. This population is representative of the typical number of full-time students entering The College in the fall semester each year. From this population 422 students participated in the study. Demographic information including gender, age, ethnic background, financial aid status, and college major was collected for descriptive purposes and for possible future consideration of categorical factors that may identify students academically at risk. The sample consisted of 222 males and 200 females. Participants were predominately white (87%) with minority populations reporting 7% black and 6% Hispanic. Sixty-one percent of the sample met economically disadvantaged criteria based on eligibility for federal financial aid pell grant. The average age of participants was 18.9. Students in the study were enrolled in an average of 15 credit hours and

worked for pay an average of 14 hours a week. Twenty-five percent of the students indicated they were undecided on a college major. The majors identified by the remaining 75% of the students studied were widely dispersed among programs from every department. The highest single major selected, with 18% of the decided students, was business. The next most frequently selected major was education with 9%. Sixty-six percent of the students in the study stated their reason for attending The College was to transfer to another college or university. Fifteen percent chose The College to acquire vocational or trade skills. Thirteen percent enrolled for self-improvement. The remaining 6% were there to upgrade current job skills, prepare for a career change, or were undecided about their reason for attending The College. The questionnaire for demographic data is presented in Appendix A.

Instrumentation

The specific assessment instrument used in this study was the Motivated Strategies for Learning Questionnaire (MSLQ) (copy of the MSLQ is provided in Appendix C). Four hundred and twenty-eight full-time entering freshmen students were administered the MSLQ during the second class meeting of Success Seminar/College Orientation (ED105) in the fall semester of 1998. Participation was voluntary and was not related in any way to students' grades in the class (the Informed consent letter is provided in Appendix B). One hundred and twelve students from the population were eliminated from the study. These students were either enrolled in Orientation for Technicians, a required orientation course for students in technical majors that differs in content from Success Seminar/College Orientation, or withdrew completely from college.

The number of student withdrawals from the course is restricted by college policy that allows for withdrawal from Orientation only in the case of total withdrawal from all classes. One hundred and forty-eight students were either absent or chose not to participate in the study on the day assessment was administered resulting in a total of 428 subjects.

The MSLQ includes two sections: a motivation section and a learning strategies section. Although students were given the entire assessment, only the motivation section was analyzed for this study. Results of the learning strategies section were provided to The College Basic Skills Committee for further evaluation and possible use in the college study strategies course. The MSLQ is designed to be given in class and takes approximately 20-30 minutes to administer. The motivation section consists of 31 items that assess students' goals and value beliefs for a course, their beliefs about their skills to succeed in a course, and their anxiety about tests in a course. The motivational scales are based on a general social-cognitive model of motivation that proposes three general motivational constructs (Pintrich, 1988a, 1988b, 1989): (1) expectancy, (2) value, and (3) affect.

Expectancy components refer to students' beliefs that they can accomplish a task. Value components focus on the reasons why students say they engage in an academic task. The third general motivation construct is affect resulting from anxiety. Two expectancy sub-scales assess students' (a) perceptions of self-efficacy and (b) control beliefs for learning. Three sub-scales in the MSLQ measure value beliefs: (1) intrinsic goal orientation, (2) extrinsic goal orientation, and (3) task value beliefs. The motivational construct affect has been operationalized in terms of responses to the test anxiety scale

that tap into the students' worry and concern over taking exams.

Students rate themselves on a 7-point Likert scale, from 1 "not at all true of me" to 7 "very true of me". Range is reported as the lowest score to the highest score in the distribution. Scales are constructed by taking the mean of the items that make up that scale. For example, intrinsic goal orientation has four items. An individual's score for intrinsic goal orientation would be computed by summing the four items and taking the average (Garcia et al., 1991). Students participating in the study were provided a score report and interpretation of the results including tips to improve study strategies as well as recommendations for the use of college resources and support services.

Variables

The predictor variables selected for investigation in this study include:

1. Intrinsic Goal Orientation (N = 4)
2. Extrinsic Goal Orientation (N = 4)
3. Task Value (N = 6)
4. Control Beliefs (N = 4)
5. Self-Efficacy for Learning and Performance (N = 8)
6. Test Anxiety (N = 5)

Goal Orientation refers to the student's perception of the reasons why she is engaging in a learning task. Intrinsic Goal Orientation concerns the degree to which the student perceives herself to be participating in a task for reasons such as challenge, curiosity, and mastery. Having an intrinsic goal orientation towards an academic task indicates that the student's participation in the task is an end all to itself, rather than participation being a means to an end (Garcia et al. 1991).

Extrinsic Goal Orientation (range 4-28) complements Intrinsic Goal Orientation, and concerns the degree to which the student perceives herself to be participating in a task for reasons such as grades, rewards, performance, evaluation by others, and competition. When one is high in extrinsic goal orientation, engaging in a learning task is the means to an end. The main concern the student has is related to issues that are not directly related to participating in the task itself (such as grades, rewards, and comparing one's performance to that of others) (Garcia et al. 1991).

Task Value (range 6-42) which differs from goal orientation, refers to the student's evaluation of how interesting, how important, and how useful the task is ("What do I think of this task"). Goal Orientation refers to the reasons why the student is participating in the task ("Why am I doing this"). High task value should lead to more involvement in one's learning. Task Value refers to the student's perceptions of the course material in terms of interest, importance, and utility (Garcia et al., 1991).

Control of Learning (range 4-28) refers to students' beliefs that their efforts to learn will result in positive outcomes. It concerns the belief that outcomes are contingent on one's own effort, in contrast to external factors such as the teacher. If students believe that their efforts to study make a difference in their learning, they should be more likely to study more strategically and effectively. That is, if the student feels that she can control her academic performance, she is more likely to put forth what is needed strategically to affect the desired changes (Garcia et al., 1991).

Self-efficacy (range 8-56) includes judgments about one's ability to accomplish a task as well as one's confidence in one's skills to perform that

task. Expectancy for success refers to performance expectations, and relates specifically to task performance. Self-efficacy is a self-appraisal of one's ability to master a task. (Garcia et al., 1991).

Test Anxiety (range 5-35) has been found to be negatively related to expectancies as well as academic performance. Test Anxiety is thought to have two components: a worry, or cognitive component, and an emotionality component. The worry component refers to students' negative thoughts that disrupt performance, while the emotionality component refers to affective and physiological arousal aspects of anxiety. Cognitive concern and preoccupation with performance have been found to be the greatest sources of performance decrement (Garcia et al., 1991).

Being academically underprepared has been found to be related to academic performance. The College has identified students who score at or below 16 on the American College Testing (ACT) English assessment as underprepared for college level course work. Additionally, scores on the ASSET assessment writing skills section of 40 or below are associated with poor academic performance. The ASSET Basic Skills Inventory was designed specifically for community colleges by ACT in 1982, and by 1993, had been used for entry level assessment by the majority of Kansas community colleges (Matson, 1993). Binary coding was used for categorical grouping of students in the study as academically prepared or academically unprepared based on ACT/ASSET assessments in order to control for academic ability.

The dependent variable in this study is final grade in Success Seminar/College Orientation. Grading for the course is on a standard four point system with A = 4 points, B = 3, C = 2, D = 1, and a grade of F = 0. Grading was

standardized in all sections of the course by a percentage of points in the course (200 possible) resulting in 90% or better = A, 80 - 89 % = B, 70 - 79% = C, 60 -69% = D, and 59% or less = F. Points are earned by participation in class activities, textbook assignments, reaction papers, outside assignments, and tests.

Treatment

Success Seminar/College Orientation is a one-credit hour course required of all entering full-time freshmen students in their first semester of college. Success Seminar/College Orientation provides experiences designed to help students with the transition into college life. Core topics of the course include: study skills, goal setting, learning styles, institutional policies, and healthy lifestyles. In addition, campus resources are explored. Other topics included in the orientation course are time management, stress management, critical thinking, relationships, career planning, library usage, addictive behaviors, and academic advising.

There were 32 sections of Orientation in the Fall, 1998, semester with average enrollment of 18 students per section. This is a typical enrollment. The course was taught primarily by full-time college faculty which includes college counselors. Additional instructors for the course were other student services professionals, part-time faculty, and members of the college administration. The faculty participated in a two hour session lead by the researcher covering course content, objectives, and standardized grading policy.

Research hypotheses

1. There is a significant positive correlation between Intrinsic Goal Orientation and academic success in a college success/orientation course.
2. There is a significant positive correlation between Extrinsic Goal Orientation and academic success in a college success/orientation course.
3. There is a significant positive correlation between Task Value and academic success in a college success/orientation course.
4. There is a significant positive correlation between Control Beliefs and academic success in a college success/orientation course.
5. There is a significant positive correlation between Self-Efficacy for Learning and Performance and academic success in a college success/orientation course.
6. There is a significant negative correlation between Test Anxiety and academic success in a college success/orientation course.

Analysis

Multiple regression was used in the analysis of relationships in this study. In addition to assessing the relationship of two or more variables with another variable, multiple regression makes it possible to bring more than one predictor variable to bear in predicting scores on a given variable (Williams, 1992). Type I error rate was set at .05 for all tests of significance.

Chapter 4: Results

Overview

This chapter reports findings from the statistical analysis of the data collected in the research study. Discussion and implications of the findings are provided in chapter five. The purpose of this study was to investigate certain identified motivational factors and their relationship to the academic success of community college freshmen orientation students. Multiple regression was used to analyze the data collected.

The Motivated Strategies for Learning Questionnaire (MSLQ) (a copy of the MSLQ is provided in appendix C) provided scales for six motivational factors selected as independent (predictor) variables. The predictor variables were Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, Control Beliefs for Learning, Self-Efficacy, and Test Anxiety. Student scores were determined by summing the scores on the Likert scale for each item relating to the motivational factor and taking the average. The dependent variable used was grade in Success Seminar/College Orientation. The MSLQ is designed to be used at the course level and results are reported solely on the relationship of the predictor variables to grades in the specified course. The questionnaire was administered to 428 students in the study on the second day of each section of Success Seminar/College Orientation. Grades were reported at the end of the eight-week course. Multiple regression analysis was run on all 428 students selecting students as either academically prepared or academically underprepared as determined by ACT/ASSET scores. Table 1 provides means and standard deviations for the prepared (N = 287) and underprepared (N = 141) students.

Table 1

Means and Standard Deviations for Prepared and Underprepared Students

	Prepared			Underprepared		
Variable	M	SD	N	M	SD	N
Grade	3.27	1.12	287	3.20	1.10	141
Intrinsic	4.90	0.99	287	5.01	0.88	141
Extrinsic	5.53	1.01	287	5.75	0.92	141
Task Value	4.92	1.16	287	5.19	0.92	141
Control	5.61	0.90	287	5.46	0.93	141
Self-efficacy	6.03	0.90	287	5.76	0.84	141
Test anxiety	3.73	1.33	287	4.37	1.35	141

Because the predictor variables being considered were clearly identified and incorporated in the assessment tool, the entered model was used for multiple regression analysis. Multiple regression resulted in negligible correlations for all predictor variables with the exception of Test Anxiety for underprepared students. Due to considerable correlation among the predictor variables, a stepwise model was also performed to determine if variables entered might diminish the importance of an already entered variable. The stepwise model resulted in no significant change. Tables 2 and 3 present the correlation data for the prepared and underprepared groups.

Table 2

Pearson-Product Moment Correlations for Prepared Students (N = 287)

	Intrin	Extrin	Tsk Val	Control	Self-eff	Test Anx
Grade	0.01	0.11	0.04	0.12	0.08	-0.04
Intrin		0.37	0.61	0.40	0.32	0.02
Extrin			0.48	0.39	0.46	0.01
Tsk Val				0.41	0.23	0.10
Control					0.51	-0.08
Self-eff						-0.28

Table 3

Pearson-Product Moment Correlations for Underprepared Students (N = 141)

	Intrin	Extrin	Tsk Val	Control	Self-eff	Test Anx
Grade	-0.08	-0.01	0.09	-0.01	0.01	* 0.18
Intrin		0.45	0.38	0.65	0.61	0.02
Extrin			0.43	0.53	0.51	0.11
Tsk Val				0.31	0.27	0.16
Control					0.62	0.08
Self-eff						-0.22

* $p < .05$

Note. Statistical significance is identified only for correlation with the dependent variable.

Using the entered model for multiple regression, all predictor variables are entered simultaneously. The model resulted in an R of .15 and an R Squared .02, for the prepared group. The findings were not statistically significant, (df 6) F = 1.04, p = .40. Results for the Underprepared group resulted in an R of .27 and an R Squared .07. The findings were not significant, (df 6) F = 1.69, p = .13. Beta coefficients and t tests are presented in Tables 4 and 5.

Table 4

Beta Coefficients and t test for Prepared Students (N = 287)

Variable	B	Std. Error	Beta	t	Sig.
Intrin	-6.69E-02	.08	-.06	-.77	.44
Extrin	.11	.08	.09	1.26	.21
Tsk Val	-9.80E-03	.08	-.01	-.12	.90
Control	.14	.10	.11	1.46	.15
Self-eff	-1.05E-02	.097	-.01	.-.11	.91
Test Anx	-2.25E-02	.05	-.03	-.43	.67

Note. Simultaneous regression was used in the analysis.

Table 5

Beta Coefficients and t tests for the Underprepared Students (N = 141)

Variable	B	Std. Error	Beta	t	Sig.
Intrin	-.26	.15	-.21	-1.71	.09
Extrin	-.11	.13	-.09	-.83	.41
Tsk Val	.15	.11	.12	1.30	.20
Control	-1.13E-02	.15	-.01	-.08	.94
Self-eff	.27	.17	.20	1.62	.11
Test Anx	.18	.08	.22	2.40	* .02

* $p < .05$.

Note. Simultaneous regression was used in the analysis.

There was no significant relationship found between any motivational factors and grades for the academically prepared group. A significant relationship was found for Test Anxiety in the academically underprepared group, albeit in the unexpected direction. The .05 level of significance was used for all statistical analyses.

Research Hypotheses

General Approach

To determine if a significant correlation existed between the predictor variables and academic success of students in a freshmen orientation class, a multiple regression analysis was performed. Four hundred and twenty-eight students completed a questionnaire (MSLQ) composed of 31 items designed to assess students' motivational beliefs on a seven-point Likert scale. Academic ability was controlled by identifying and selecting students as either

academically prepared (N = 287) or underprepared (N = 141) based on ACT/ASSET scores. All predictor variables were correlated with the dependent variable, the grade in Success Seminar/College Orientation.

Research Hypothesis 1

Hypothesis one seeks to determine if students' intrinsic need for competence and self-determination is positively correlated with academic success in a freshmen orientation course. There was no significant positive correlation found for Intrinsic Goal Orientation in the prepared group. A correlation of .12 is required for statistical significance with a sample size of 287. The findings for Intrinsic Goal Orientation for this group was $r = .01$, $p = .44$.

There was no significance found for Intrinsic Goal Orientation for the underprepared group. With sample size 141, a correlation coefficient of .16 is required for significance. The findings for Intrinsic Goal Orientation in the prepared group were $r = -.08$, $p = .09$. There was no significance found supporting a positive correlation for Intrinsic Goal Orientation and academic success for either prepared or underprepared students; therefore, there is no support for Hypothesis 1.

Research Hypothesis 2

The premise of hypothesis two is that a positive correlation exists between Extrinsic Goal Orientation, seeking external rewards for the performance of tasks, and academic success of students in a freshmen orientation course. There was no significance found for the prepared group in this study. The correlation of Extrinsic Goal Orientation with grade for the prepared group was $r = .11$, $p = .21$. There was no significant correlation found

for Extrinsic Goal Orientation for the underprepared group. Results for this group were $r = -.01$, $p = .41$. There is no support for Hypothesis 2.

Research Hypothesis 3

Hypothesis three investigates the positive relationship of students' value and interest beliefs and academic success in a freshmen orientation course. No significance was found for either the prepared or underprepared groups in this study. The findings for the prepared group were $r = .04$, $p = .90$. The findings for the underprepared group were $r = .09$, $p = .20$. These findings provide no significant evidence to support the research hypothesis. There is no support for Hypothesis 3.

Research Hypothesis 4

Research hypothesis four tests the positive relationship between academic success in a freshmen orientation course and students' beliefs about whether success is contingent upon their own efforts or a result of external factors. No statistical evidence was found to support the hypothesis for either the prepared group or the underprepared group. Results for the prepared group were $r = .12$, $p = .15$. Results for the underprepared group were $r = -.01$, $p = .94$. There is no support for Hypothesis 4.

Research Hypothesis 5

Hypothesis five measures the positive relationship between students' beliefs about their competency and expectations for success with grades achieved in a freshmen orientation course. No significant correlation was found for students in the prepared group with $r = .08$, $p = .91$. There was no significant correlation found for the underprepared group with $r = .01$, $p = .11$. There is no support for Hypothesis 5.

Research Hypothesis 6

Test Anxiety has been found to be negatively related to academic performance (Pintrich et al., 1991). Hypothesis six tests whether Test Anxiety is negatively related to academic success of students in a freshmen orientation course. There was no significant relationship found for Test Anxiety for the prepared group in this study. Results for this group were $r = -.04$, $p = .67$. Although a statistically significant relationship was found for Test Anxiety in the underprepared group, $r = .18$, $p = .02$, this correlation was in a positive direction rather than in the hypothesized negative direction. Based on these findings there is no support for Hypothesis 6.

Mean Differences

As a result of finding no significant correlation of the predictor variables with grades as hypothesized, a post hoc multiple analysis of variance (MANOVA) was performed to determine if possible significant differences existed in the the mean scores of predictor variables for the prepared and underprepared student groups in the study. In addition, an analysis of variance was performed comparing the mean scores for the dependent variable (grade) for the prepared and underprepared student groups.

The between groups analysis of variance for the dependent variable (grade) was not significant with $F = .41$, $p = .52$. The multivariate analysis of variance for the mean scores of the predictor variables found significant differences between groups on four of the six predictor variables. Significant differences were identified for Extrinsic Goal Orientation, Task Value, Self-efficacy, and Test Anxiety between the prepared and underprepared groups.

As the means and standard deviations reveal in Table 1, the underprepared group scored significantly higher than the prepared group on Extrinsic Goal Orientation, Task Value, and Test Anxiety. The prepared students had a significantly higher mean than the underprepared students on Self-efficacy. MANOVA results are presented in Table 6.

Table 6

Analysis of Variance of the Means

Variables	df	F	Sig.
Intrinsic	1	1.24	.27
Extrinsic	1	4.52	*.03
Task value	1	5.65	*.02
Control	1	2.17	.11
Self-efficacy	1	8.66	*.00
Text anxiety	1	21.68	*.00

* $p < .05$.

No significant correlations were found in this study in support of any of the research hypotheses presented for either the prepared student group or the underprepared student group. Significant differences were found between groups in mean scores of four of the six predictor variables. There was no significant difference in the between groups mean scores for the dependent variable used in the study.

Chapter Five: Discussion

Introduction

The purpose of this research study was to examine the relationship between motivation and academic success of community college freshmen orientation students. Moreover, the study identified motivational differences that might exist between academically prepared and underprepared students who were classified by college entrance ACT/ASSET. These scores are used at The Community College to identify the need for developmental studies. The sample was selected from the population of first-time, full-time freshmen students entering The College in the fall semester of 1998. Multiple regression analysis was used to investigate the relationship between motivation factors and grades in the college orientation course. No statistical significance was found to support the research hypotheses presented in this study. A discussion of the methodology, findings, conclusions, and implications of the study follow.

Methodology

From the population of 682 full-time, first-time freshmen students entering The College in fall, 1998, only 428 actually participated in the study. Of the 37% of students who did not participate, 112 were enrolled in Orientation for Technicians, a uniquely different college orientation course for students in specific technical majors. The remaining 142 students who did not participate either were absent on the day the questionnaire was administered or withdrew from The College. Students are only allowed to withdraw from Success Seminar/College Orientation if they withdraw from college completely. What impact the omission of these students had on the results of the research would be purely speculative; however, the relationship of motivation to class

attendance and withdrawal from college is an intriguing consideration potentially impacting the findings of this study. Moreover, students voluntarily participated, leaving the nonparticipants an unknown quantity.

The use of the MSLQ may be another important consideration in review of the results of this study. Although thoroughly researched, the development of the MSLQ focused on the assessment of student motivation in academically challenging courses from the disciplines of natural science, humanities, social science, computer science, and foreign language. The student population used in the development of the MSLQ was from all undergraduate class levels including a large number of seniors. The application of the MSLQ in the assessment of student motivation in a one-credit hour freshmen orientation course, graded largely on attendance and class participation, was certainly an exploration into new territory. Table 7 provides an interesting comparison of the mean scores of the MSLQ validation sample and the sample used in this study. A review of the mean scores of the different samples indicates that the level of academic rigor required in the course in which motivation is being assessed may have had considerable impact on students' self-reported motivation. The possible implications of these comparisons are discussed in more detail later in this chapter.

An important factor to consider in the review of the findings of this study is the dependent variable, grade in Success Seminar/College Orientation. A preliminary study performed as an aspect of this research involved the correlation of grades in Success Seminar/College Orientation with first semester GPA. The results of the preliminary study were $r = .63$, $p < .05$. These findings established the basis for the use of grade in Success Seminar/College

Orientation as a valid predictor of academic success. Additionally, educational research is replete with data demonstrating that academically unprepared students seldom fair well in the college environment. Despite this background information, results of this study do not replicate the findings of prior research on motivation and academic achievement. The ANOVA of the mean scores reported in chapter four demonstrates that the mean grade of 3.20 for the underprepared group in this study represents no significant difference to the mean grade for the prepared group of 3.27. The small difference in mean grade for underprepared students compared with the prepared group along with the similarity of the predictor variable correlations with the grade account for the lack of significance.

Table 7

Sample Mean Comparisons

	MSLQ	Prepared	Underprepared
Variable	M	M	M
Intrinsic	5.03	4.90	5.01
Extrinsic	5.03	5.53	5.75
Tsk Val	5.54	4.92	5.19
Control	5.74	5.61	5.46
Self-eff	5.47	6.03	5.76
Test Anx	3.63	3.73	4.37

Conclusions

Research Hypothesis 1

Research hypothesis one states that there is a positive correlation between Intrinsic Goal Orientation and academic success of freshmen orientation students. Research on intrinsic motivation provides evidence that intrinsic motivation relates positively to perceived competence and internal control (Harter, 1981; Harter & Connell, 1984). Students with learning problems also often believe they lack the competence to do well which lowers their intrinsic motivation (Licht & Kistner, 1986; Schunk, 1989b). No statistical evidence was found to support the hypothesis. However, it may be that underprepared students whose mean score on Intrinsic Goal Orientation was not statistically different than the mean for the prepared student group found course content such as time management, learning styles, and study strategies, to be of greater personal value thereby influencing their intrinsic motivation in the course. This premise is supported by the fact that underprepared students scored significantly higher mean scores than prepared students on Task Value (how interesting, important, and useful the task is).

Research Hypothesis 2

No statistical evidence was found supporting the hypothesis that Extrinsic Goal Orientation is positively correlated with grades in the freshmen orientation course. Although no statistical significance was found in this study it is of note that the mean score for the underprepared student group was significantly higher than the mean for the prepared group. Earlier research on motivation has found that extrinsic motivation complements intrinsic motivation and that rewards linked to skill acquisition inform students that they are developing

competence and raise self-efficacy (Cameron & Pierce, 1994; Schunk, 1991b). In a course such as Success Seminar/College Orientation underprepared students may have experienced higher extrinsic motivation based on a need to prove they could do the work. It is feasible that this expanding Extrinsic Goal Orientation had a confounding effect on other motivation factors as indicated by their higher than expected mean scores on Task Value, and lower score than the prepared group on Self-efficacy.

Research Hypothesis 3

The hypothesis that Task Value has a positive correlation with academic success in a freshmen orientation course is not supported by statistical findings in this study. Underprepared students again had the higher mean score on this predictor variable compared with the prepared group. It may not be surprising, in this case, that underprepared students would find greater value in a course designed to teach basic skills and fundamental learning strategies as opposed to the more academically advanced prepared student group who may very likely believe they already possess the necessary basic skills and knowledge. Again, the statistical significance of the predictor variable may have been influenced by the limited academic rigor required in the course.

Research Hypothesis 4

The hypothesis that Control Beliefs about Learning is positively related to academic success of freshmen orientation students is based on Rotter's (1966) locus of control construct. Research supports the relationship between locus of control and motivation and academic achievement in school. Martel, McKelvie, and Standing (1987), for example, found locus of control to be the best single predictor of subjects' mean course grade. Although not meeting the level of

probability set for this study, Control Beliefs about Learning had the highest correlation with grade among the predictor variables, at least in the case of the prepared student group. Results for the prepared group were $r = .12$, $p = .15$. The fact that underprepared students scored no differently on Control Beliefs than the prepared student group scored may have been influenced by the belief that they were more in control due to the fact that the academic rigor was not threatening.

Research Hypothesis 5

The hypothesis that Self-Efficacy for Learning and Performance is positively correlated with academic success in a freshmen orientation course is not supported by statistical findings in this research. An important consideration of the self-efficacy construct is the theory's more specific and situational view of perceived competence in terms including the behavioral actions or cognitive skills necessary for competent performance (Bandura, 1986). In this study of orientation students, although a significant difference was found in the mean self-efficacy scores of prepared (6.03) and underprepared (5.76) students, there was no significant relationship with the dependent variable (grade). Even though underprepared students reported somewhat lower self-efficacy beliefs than the prepared student group, the grade results did not vary significantly between the two groups. It is reassuring that prepared students reported higher levels of confidence in their ability to succeed in the course as reflected in their Self-efficacy scores.

Research Hypothesis 6

Meta-analysis of Test Anxiety has confirmed the relationship between Test Anxiety and academic achievement finding that Test Anxiety does cause

poor performance (Hembree, 1988). Hypothesis six states that there is a negative correlation between Test Anxiety and academic success in a freshmen orientation course. The expectation according to this hypothesis is that as Test Anxiety goes up among students, academic performance will go down. Although a moderately statistically significant correlation was found ($r = .18$, $p = .02$) for underprepared students in this study, the relationship was positive rather than in the expected negative direction and does not support the hypothesis. A very modest negative correlation ($r = -.04$, $p = .67$) was found for prepared students in this study but did not approach statistical significance.

Because Success Seminar/College Orientation is graded largely on outside assignments and in class exercises with very little or, in some cases, no testing included, the dependent variable grade was more than likely unaffected by Test Anxiety despite the significantly higher mean scored for underprepared students. The positive correlation for the underprepared student group was not anticipated in this study. One might speculate that among underprepared students, those who suffered from Test Anxiety may also have had more concern about performance on out-of-class assignments and in-class exercises and consequently approached those activities with greater diligence affecting final course grade.

Implications

The purpose of this study, as clearly stated in chapter one, was an attempt at the early identification of motivational factors that may affect students' academic success in college, especially for those students already considered at risk. Research indicates that half of all students who drop out of college will do so during their freshmen year and many of these students will do so during

the first six to eight weeks of their initial semester (Blanc, Debuhr, & Martin, 1983). Such information clearly dramatizes the need for early assessment and intervention strategies. Considerable previous research has demonstrated that efforts to impact at-risk students has not resulted in significant improvement. Faculty and student services professionals remain frustrated in their efforts to impact the academic success and retention of such students. Developmental studies programs alone have not overcome the problem that academically underprepared students often still fail when moving into the mainstream of college curriculum (Roueche & Kirk, 1973).

Although considerable descriptive data have been accumulated to identify the at-risk students (e.g., low socio-economic status, first generation college student, undecided, etc.) little data exist to aid in the early identification of specific motivational factors that education professionals might address in their efforts to assist this group., Freshmen orientation programs provide an excellent vehicle for colleges and universities to address this problem.

A major objective of this study was an attempt to address the problem of early identification of motivational factors using freshmen orientation students as the vehicle for the research. The lack of significant correlation does not lessen the importance of this endeavor but rather illuminates the difficult challenge for research. The implications provide focus for further research and the development of strategies in the common challenges inherent in the orientation process of freshmen students.

Implications result primarily from significant differences in motivational factors between academically prepared students and academically underprepared students found in the research. The fact that underprepared

students reported similar orhigher levels of motivation than prepared students on a number of the predictor variables is more than surprising and needs to be carefully considered. There appear to be important differences in the motivation of prepared and underprepared students, at least in regard to the orientation course used in this study and likely for the many similar courses being offered at colleges and universities across the nation. Of particular interest from the results is the higher mean scores of underprepared students on the assessment of Extrinsic Goal Orientation, Task Value, and Test Anxiety. Utilizing the motivations indicated can assist orientation teachers in structuring activities that engage underprepared students.

According to Pintrich, Smith, Garcia, and McKeachie (1991) goal orientation refers to the students' perception of the reasons why they are engaging in a learning task. In this study academically prepared students showed less extrinsic motivation than academically underprepared students. Prepared students experienced less motivation to seek reward for the mastery of content in the course. These findings support previous research on extrinsic motivation by Lepper, Greene, and Nisbett (1973) that rewards linked to activities in which students are already intrinsically motivated may be detrimental. The implications are that academically prepared students need more difficult and challenging subject matter if they are to be motivated in a freshmen orientation course.

The results of the assessment of the predictor variable Task Value supports this interpretation. Task Value refers to students' perceptions of the course material in terms of interest, importance, and usefulness (Pintrich et al., 1991). Underprepared students reported a higher level of Task Value than did

the prepared group for Success Seminar/College Orientation. Prepared students were less motivated in terms of perceived interest and value in the course.

Other predictor variables (i.e., Self-efficacy, and Test Anxiety) mean scores yielded additional results. The findings also have implications for the delivery of freshmen orientation courses. Lower levels of Self-efficacy and higher levels of Test Anxiety would appear to be important criteria when developing content of freshmen orientation courses for underprepared students.

Perhaps the overriding implication is that there are apparently important motivational differences to be addressed for academically prepared students and academically underprepared students in the college orientation process. Because of these differences, educational institutions need to give serious consideration to the development of uniquely different orientation programs that relate to the academic readiness of freshmen students. The distinctions are clear. Academically prepared freshmen orientation students report lower levels of motivation in regard to course value and higher levels of expectancy for success. Academically underprepared students report higher levels of value placed on the orientation course and lower levels of expectancy for success.

Suggestions for Additional Research

Although predicting academic success in a one-credit hour orientation course through the assessment of motivation has proven to be an elusive goal, results indicate the need for additional research. Replication of this study using total points earned, based on standardized points possible in the course, has the potential for yielding greater variance as a dependent variable.

Lower Self-efficacy and higher Test Anxiety scores for underprepared students are important topics for additional study. Research involving the application of strategies designed to enhance self-efficacy and reduce test anxiety may offer promising results for at-risk, underprepared students. Experimentation using strategies aimed at the motivational differences found between prepared and underprepared students may aid in explaining the contribution of motivation to the academic success of freshmen orientation students.

Recommendations

The research question of how much variance in academic success can be explained by identified motivational factors has not been answered by the results obtained in the study. Consequently, the subsequent question of which motivational factors contribute most to the variance also remains unanswered. ANOVA results of mean scores comparing prepared and underprepared students however provide valuable information to college faculty and administrators interested in improving the quality of instruction and effecting student motivation.

All institutions of higher education dedicated to helping students with a successful beginning to their college career and improving retention must look to effective freshmen orientation. Results found in the study of freshmen orientation students show that significant motivational differences exist between prepared and underprepared students. A social-cognitive perspective was used to examine motivation based on the constructs of value, expectancy, and affect.

The value construct is composed of Intrinsic Goal Orientation, Extrinsic Goal Orientation, and Task Value. Results of the study found that underprepared students placed greater value in the orientation course based on significantly higher mean scores on Extrinsic Goal Orientation and Task Value. These findings reflect the appropriateness of course content for the underprepared group but demonstrate a lower level of value placed on the course by the prepared group. Educators need to address the need of prepared students for more academically challenging and self-actualizing course content.

The expectancy component of motivation examined in the study included Control Beliefs about Learning and Self-efficacy. Although no significant difference was found between the groups for Control Beliefs, the prepared group had a significantly higher mean score for Self-efficacy. Based on this finding, prepared students had greater confidence in their ability to perform the tasks required in the orientation course as well as higher levels of expectation to be successful in the course. Such results should encourage orientation faculty to incorporate strategies designed to enhance self-efficacy among underprepared students.

Affect was measured in the study by the assessment of Test Anxiety. Underprepared students in the study reported significantly higher Test Anxiety than did the prepared student group. Although grades were not affected by Test Anxiety in the study due to the lack of testing included in the course, considerable research, as reported in Chapter Two, provides evidence that academic success is negatively correlated with Test Anxiety. Differences found in the study strongly suggest that orientation courses need to incorporate

strategies aimed at reducing Test Anxiety especially for underprepared students.

The contribution of the study of motivation of freshmen orientation students lies in the differences found between academically prepared and underprepared students. These findings should serve to alert college administrators and faculty to the need for more homogeneous grouping of freshmen orientation students in order to better address individual motivational differences.

References

Adelman, C. (Ed.). (1986). Assessment in American higher education. Washington, DC: Department of Education.

Ames, C. (1984). Competitive, cooperative, and individualistic goal structures: A cognitive-motivational analysis. In R. Ames & C. Ames (Eds.), Research on motivation in education (Vol. 1, pp. 177-207). New York: Academic Press.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. Journal of Educational Psychology, 84, 261-271.

Archer, J. (1994). Achievement goals as a measure of motivation in university students. Contemporary Educational Psychology, 19, 430-446.

Asch, S. E. (1958). Interpersonal influence. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), Readings in social psychology (3rd ed., pp. 174-183). New York: Holt.

Atkinson, J. W. (1964). An introduction to motivation. Princeton NJ: Van Nostrand.

Bandura, A. (1969). Principles of behavior modification. New York: Holt, Rinehart & Winston.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall.

Beal, P., & Noel, L. (1980). What works in student retention. Iowa City: The American College Testing Program.

Blanc, R.A., Debuhr, L.E., & Martin, D.C. (1983). Breaking the attrition cycle: The effects of supplemental instruction on undergraduate performance and attrition. Journal of Higher Education, 54 (1), 80-90.

Brewer, W. F. (1974). There is no convincing evidence for operant or classical conditioning in adult humans. In W. B. Weimer & D. S. Palermo (Eds.), Cognition and the symbolic processes (pp. 1-42). Hillsdale, NJ: Erlbaum.

Brown, S. D., Lent, R. W., & Larkin, K. C. (1989). Self-efficacy as a moderator of scholastic aptitude--academic performance relationships. Journal of Vocational Behavior, 35, 64-75.

Cameron, J., & Pierce, W. D. (1994). Reinforcement, reward, and intrinsic motivation: A meta-analysis. Review of Educational Research, 64, 363-423.

Connell, J. P. (1985). A new multidimensional measure of children's perceptions of control. Child Development, 56, 1018-1041.

Cuseo, J. (1987). Conducting freshman orientation as a required, credit-earning faculty taught course: Its advantages for promoting student retention and success. Paper presented at The Freshman Year Experience Conference-West, Irvine, CA. (January).

Cuseo, J. (1991). The freshman orientation seminar: A research-based rationale for its value,delivery, and content. (National Resource Center for the Freshman Year Experience Monograph No. 4). Columbia, SC: University of South Carolina.

Deci, E. L. (1980). The psychology of self-determination. Lexington, MA: D. C. Heath.

Deci, E. L., & Porac, J. (1978). Cognitive evaluation theory and the study of human motivation. In M. R. Lepper & D. Greene (Eds.), The hidden cost of reward: New perspectives on the psychology of human motivation (pp. 149-176). Hillsdale, NJ: Erlbaum.

Dusek, J. B. (1980). The development of test anxiety in children. In I. G. Sarason (Ed.), Test anxiety: Theory, research, and applications (pp. 87-110). Hillsdale, NJ: Erlbaum.

Fidler, P. P., & Hunter, M. S. (1989). In M. L. Upcraft, J. N. Gardner, & Associates (Eds.), The freshman year experience (pp. 216-237). San Francisco: Jossey-Bass.

Garcia, T., McKeachie, W. J., Pintrich, P. R., & Smith, D. A. (1991). A manual for the use of the Motivated Strategies for Learning Questionnaire (Tech. Rep. No. 91-B-004). Ann Arbor, MI: The University of Michigan, School of Education.

Harter, S. (1981). A model of mastery motivation in children: Individual differences and motivational change. In W. A. Collins (Ed.), Aspects on the development of competence: The Minnesota symposia on child psychology (Vol. 14, pp. 215-255). Hillsdale, NJ: Erlbaum.

Harter, S., & Connell, J. P. (1984). A comparison of children's achievement and related self-perceptions of competence, control, and motivational orientation. In J. G. Nicholls (Ed.), Advances in motivation and achievement: The development of achievement motivation (Vol. 3, pp. 219-250). Greenwich, CT: JAI Press.

Heckhausen, H. (1991). Motivation and action. Berlin: Springer-Verlag.

Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. Review of Educational Research, 58, 47-77.

Hidi, S., & Anderson, V. (1992). Situational interest and its impact on reading and expository writing. In K. A. Renninger, S. Hidi, & A. Krapp (Eds.), The role of interest in learning and development (pp. 215-238). Hillsdale, NJ: Erlbaum.

Jacobi, M., Astin, A. & Ayala, F., Jr. (1987). College student outcomes assessment: A talent development perspective. ASHE-ERIC Higher Education Report No.7. Association for the Study of Higher Education: Washington, DC.

James, W. (1890). The principles of psychology. (Vol. 2). New York: Henry Holt.

Kelly, D. K. (1988). Motivating the underprepared unmotivated community college student. Viewpoints (120) -- Information analyses (070). (ERIC Document Reproduction Service No. ED 299 009)

Keppel, G., Saufley, W. H. Jr., & Tokunaga, H. (1992). Introduction to design and analysis: A student's handbook (2nd ed.). New York: Freeman.

Krapp, A., Hidi, S., & Renninger, K. A. (1992). Interest learning and development. In K. A. Renninger, S. Hidi, & Krapp (Eds.), The role of interest in learning and development (pp. 3-25). Hillsdale, NJ: Erlbaum

Lent, R. W., Brown, S. D., & Larkin, K. C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. Journal of Counseling Psychology, 31 (3), 356-362.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1986). Self-efficacy in the prediction of academic performance and perceived career options. Journal of Counseling Psychology, 33 , 265-269.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1987). Comparison of three theoretically derived variables in predicting career and academic behavior: Self-efficacy, interest congruence, and consequence thinking. Journal of Counseling Psychology, 34 , 293-298.

Lepper, M. R., Greene, D., & Nisbett, R. E. (1973). Undermining children's intrinsic interest with extrinsic reward: A test of the "overjustification" hypothesis. Journal of Personality and Social Psychology, 28, 129-137.

Lewin, K., Dembo, T., Festinger, L., & Sears, P. (1944). Level of aspiration. In J. McV. Hunt (Ed.), Personality and the behavioral disorders (Vol. 1). New York: Ronald.

Licht, B. G., & Kistner, J. A. (1986). Motivational problems of learning disabled children: Individual differences and their implications for treatment. In J. K. Torgesen & B. W. L. Wong (Eds.), Psychological and educational perspectives on learning disabilities (pp. 225-255). Orlando, FL: Academic Press.

Locke, E. A., & Latham, G. P. (1990). A theory of goal setting and task performance. Englewood Cliffs, NJ: Prentice Hall.

Martel, J., McKelvie, S. J., & Standing, L. (1987). Validity of an intuitive personality scale: Personal responsibility as a predictor of academic achievement. Educational and Psychological Measurement, 47, 1153-1163.

Martin, N. K., & Dixon, P. N. (1989). The effects of freshman orientation and locus of control on adjustment to college. Journal of College Student Development, 30, 362-367.

Maslow, A. (1954). Motivation and personality. New York: Harper.

McClelland, D., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1953). The achievement motive. New York: Appleton-Century-Crofts.

McDougall, W. (1926). An introduction to social psychology (Rev. ed.). Boston: John W. Luce.

McKeachie, W. J., Pintrich, P. R., Lin, Y. G., & Smith, D. (1986). Teaching and learning in the college classroom: A review of the research literature. Ann Arbor, MI: National Center for Research to Improve Postsecondary Teaching and Learning, The University of Michigan.

Meier, S., McCarthy, P. R., & Schmeck, R. R. (1984). Validity of self-efficacy as a predictor of writing performance. Cognitive Therapy and Research, 8 (2), 107-120.

Mone, M. A. (1994). Comparative validity of two measures of self-efficacy in predicting academic goals and performance. Educational and Psychological Measurement, 54, 516-529.

Mone, M. A., Baker, D. D., & Jeffries, F. (1995). Predictive validity and time dependency of self-efficacy, self-esteem, personal goals, and academic performance. Educational and Psychological measurement, 55, 716-727.

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. Journal of Counseling Psychology, 38, 30-38.

Murray, H. A. (1938). Explorations in personality. New York: Oxford University Press.

Noel, L. (1985). Increasing student retention: New challenges and potential. In L. Noel, R. Levitz, & Associates (Eds.), Increasing student retention (pp. 1-27). San Francisco: Jossey-Bass.

Pavlov, I. P. (1927). Conditioned reflexes (G. V. Anrep, Trans.). London: Oxford University Press.

Peterson, C., Maier, S., & Seligman, M. (1993). Learned helplessness: A theory for the age of personal control. New York: Oxford University Press.

Phares, E. J. (1976). Locus of control in personality. Morristown, NJ: General Learning Press.

Pintrich, P. R., Cross, D. R., Kozma, R. B., & McKeachie, W. J. (1986). Instructional psychology. Annual Review of Psychology, 37, 611-651.

Pintrich, P. R. (1988a). A process-oriented view of student motivation and cognition. In J. Stark and L. Mets (Eds.), Improving teaching and learning through research: New directions for institutional research (Vol. 57, pp. 65-79). San Francisco: Jossey-Bass.

Pintrich, P. R. (1988b). Student learning and college teaching. In R. E. Young and K. E. Eble (Eds), College teaching and learning: Preparing for new commitments. New directions for teaching and learning (Vol. 33, pp. 71-86). San Francisco: Jossey-Bass.

Pintrich, P. R. (1989). The dynamic interplay of student motivation and cognition in the college classroom. In C. Ames and M. Maehr (Eds.), Advances in motivation and achievement: Motivation-enhancing environments (Vol. 6, pp. 117-160). Greenwich, CT: JAI Press.

Pintrich, P. R., & Schunk, D. H. (1996). Motivation in education. Englewood Cliffs, NJ: Prentice Hall.

Renninger, K. A. (1990). Children's play interests, representation, and activity. In R. Fivush & J. Hudson (Eds.), Knowing and remembering in young children (pp. 127-165). Cambridge: Cambridge University Press.

Renninger, K. A. (1992). Individual interest and development: Implications for theory and practice. In K. A. Renninger, S. Hidi, & A. Krapp (Eds.), The role of interest in learning and development (pp. 361-395). Hillsdale, NJ: Erlbaum.

Rogers, C. R. (1963). The actualizing tendency in relation to "motives" and to consciousness. In M. R. Jones (Ed.), Nebraska symposium on motivation (Vol. 11, pp. 1-24). Lincoln: University of Nebraska Press.

Rogers, C. R. (1969). Freedom to learn. Columbus, OH: Merrill.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80 (1, Whole No. 609).

Roueche, J. E., & Kirk, R. W. (1973). Catching up: Remedial education. San Francisco: Jossey-Bass.

Roueche, J. E., & Mink, O. (1975). Toward Personhood development in the community college. Paper presented at the Annual Meeting of the American Association of Community and Junior Colleges, Seattle, WA. (ERIC Document Reproduction Service No. ED 114 137).

Ryan, R. M., Connell, J. P., & Deci, E.L. (1985). A motivational analysis of self-determination and self-regulation in education. In C. Ames & R. Ames (Eds.), Research on motivation in education: Vol. 2. The classroom milieu (pp. 13-51). Orlando, FL: Academic Press.

Schiefele, U. (1991). Interest, learning, and motivation. Educational Psychologist, 26, 299-323.

Schunk, D. H. (1989). Self-efficacy and cognitive achievement: Implications for students with learning problems. Journal of Learning Disabilities, 22, 14-22.

Schunk, D. H. (1991a). Learning theories: An educational perspective. New York: Merrill/MacMillan.

Schunk, D. H. (1991b). Self-efficacy and academic motivation. Educational Psychologist, 26, 207-231.

The Secretary's Commission on Achieving Necessary Skills (1991). What work requires of schools. A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. Psychological Reports, 51, 663-671.

Skinner, B. F. (1953). Science and human behavior. New York: Free Press.

Skinner, E. A., Chapman, M., & Baltes, P. (1988). Control, means-ends, and agency beliefs: A new conceptualization and its measurement during childhood. Journal of Personality and Social Psychology, 54, 117-133.

Terenzini, P.T. (1986). Retention research: Academic and social fit. Paper presented at the annual meeting of the Southern Regional Office of the College of Entrance Examination Board, New Orleans, LA.

Thorndike, E. L. (1913). Educational psychology: Vol. 2. The psychology of learning. New York: Teachers College Press.

Tinto, V. (1987). Leaving college: Rethinking the causes and cures of student attrition. Chicago: University of Chicago Press.

Trice, A. D. (1985). An academic locus of control scale for college students. Perceptual and Motor Skills, 61, 1043-1046.

Voorhees, R.A. (1987). Toward building models of community college persistence. Edison, NJ: Agathon Press.

Weiner, B. (1985). Human motivation. New York: Springer-Verlag.

Weiner, B. (1986). An attributional theory of achievement motivation and emotion. New York: Springer-Verlag.

Wigfield, A., & Eccles, J. (1989). Test anxiety in elementary and secondary school students. Educational Psychologist, 24, 159-183.

Williams, F. (1992). Reasoning with statistics: How to read quantitative research (4th ed.). Orlando, FL: Harcourt Brace Javanovich.

Wood, R. E., & Locke, E. A. (1987). The relation of self-efficacy and grade goals to academic performance. Educational and Psychological measurement, 47, 1013-1024.

Zimmerman, B. J., & Schunk, D. H. (Eds.). (1989). Self-Regulated learning and academic achievement. New York: Springer-Verlag.

Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. American Educational Research Journal, 31, 845-862.

Appendix A

DEMOGRAPHIC INFORMATION

1. Gender (circle one). Male Female

2. Age _____

3. Ethnic Background (check one).

___American Indian ___Asian or Pacific Islander ___White, non-Hispanic

___Hispanic ___Black, non-Hispanic ___Other

4. What year did you graduate from high school? _____

If you did not graduate what year did you complete your GED? _____

5. How many credit hours are you enrolled in for this semester? _____

6. Are you receiving financial aid? Yes ___ No ___

If you answered yes please check all the types of financial aid you are receiving.

Pell grant ___ Student Loan ___ Scholarship ___

7. How many hours a week do you work for pay? _____

8. Have you picked a college Major? (circle one) Yes Undecided

If you have picked a major please write in your choice here _____

9. Which of the following best describes your reason for attending HCC? (check one only)

___ To transfer to another college or university
___ To acquire vocational, occupational trade skills
___ To upgrade current job skills
___ To prepare to make a career change
___ Self-improvement
___ Undecided

BEST COPY AVAILABLE

Appendix B

K-STATE
Kansas State University
Office of Research and Sponsored Programs
103 Fairchild Hall
Manhattan KS 66506-1103
785 532 6195
Fax 785 532 5944

TO Margery Neely
Counseling & Educational Psychology
Bluemont Hall

Proposal Number 1565

FROM: Clive Fullagar, Chair
Committee on Research Involving Human Subjects

DATE July 30, 1998

RE Proposal #1565, entitled "The Relationship of Motivation and Academic Success of Community College Freshman Orientation Students."

The Committee on Research Involving Human Subjects has reviewed and approved the proposal identified above. In giving its approval, the Committee has determined that:

☒ There is no more than minimal risk to the subjects.
☐ There is greater than minimal risk to the subjects.

This approval applies only to the proposal currently on file and is effective for one year from the date of this memo. Any change affecting human subjects must be approved by the Committee prior to implementation. All approved proposals are subject to review, which may include the examination of records connected with the projects. Unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects and, if the subjects are KSU students, to the Director of the Student Health Center.

Prior to involving human subjects, properly executed informed consent must be obtained from each subject or from an authorized representative. Each subject must be furnished with a copy of the informed consent document for his or her personal records, and documentation must be kept on file for at least three years after the project ends. The identification of particular human subjects in any publication is an invasion of privacy and requires a separately executed informed consent. A copy of your informed consent documentation as approved by the Committee is enclosed.

Fullagar

BEST COPY AVAILABLE

MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE (MSLQ)

Your instructor is participating in a study of College teaching and learning, in cooperation with Hutchinson Community College and Kansas State University. We would like to ask for your participation in the study. As a part of the study you are asked to complete the following questionnaire relating to your motivation and learning in this class. In addition, we would like to collect information from your college transcript and entrance test scores. If you participate, you will receive feedback on your learning skills and motivation that may be useful to you in your college career. YOUR PARTICIPATION IS VOLUNTARY AND NOT RELATED IN ANY WAY TO YOUR GRADE IN THIS CLASS. All responses are strictly confidential and only members of the research team will see your individual responses.

The attached questionnaire asks you about your study habits, your learning skills, and your motivation for work in this course. THERE ARE NO RIGHT OR WRONG ANSWERS TO THIS QUESTIONNAIRE. THIS IS NOT A TEST. We want you to respond to the questionnaire as accurately as possible, reflecting your own attitudes and behaviors in this course. Your answers to this questionnaire will be analyzed and you will receive an individual report in a few weeks. The individual report will help you identify motivation and learning skills that you may want to improve during the term. Additionally, your instructor will receive feedback on your class as a whole, which will allow him or her to tailor the course to class needs. Please sign below if you would like to be involved in this study. Thank you for your cooperation.

Name (Print) _____

Signature _____

Student ID/Social Security Number _____

Instructor's Name _____

Course Title and Number _____

Today's Date _____

BEST COPY AVAILABLE

Appendix C

A Manual for the Use of the Motivated Strategies for Learning Questionnaire (MSLQ)

Paul R. Pintrich,
David A. F. Smith,
Teresa Garcia, and
Wilbert J. McKeachie

Grant Number OERI-86-0010

Joan S. Stark, Director
Wilbert J. McKeachie, Associate director

Suite 2400 School of Education Building
The University of Michigan
Ann Arbor, Michigan 48109-1259
(313) 936-2741

General Description

The Motivated Strategies for Learning Questionnaire (MSLQ) is a self-report instrument designed to assess college students' motivational orientations and their use of different learning strategies for a college course. The MSLQ is based on a general cognitive view of motivation and learning strategies. McKeachie, Pintrich, Lin, & Smith (1986) present the general theoretical framework that underlies the MSLQ. Other articles that discuss the theoretical framework include Pintrich (1988a,b; 1989), Pintrich & Garcia (1991), and Pintrich and DeGroot (1990).

There are essentially two sections to the MSLQ, a motivation section, and a learning strategies section. The motivation section consists of 31 items that assess students' goals and value beliefs for a course, their beliefs about their skill to succeed in a course, and their anxiety about tests in a course. The learning strategy section includes 31 items regarding students' use of different cognitive and metacognitive strategies. In addition, the learning strategies section includes 19 items concerning student management of different resources. There are 81 items on the 1991 version of the MSLQ.

Administering the MSLQ

The fifteen different scales on the MSLQ can be used together or singly. The scales are designed to be modular and can be used to fit the needs of the researcher or instructor. The instrument is designed to be given in class and takes approximately 20-30 minutes to administer.

A sample cover sheet (p. 33) and demographic sheet (p. 37) are included in this manual. The cover sheet requests the student's voluntary participation and briefly describes the MSLQ. The demographic sheet is an optional form the researcher can include to gather students' background data. Both the sample cover sheet and demographic sheet can be adapted to the individual researcher's needs. The questionnaire itself is located on pages 41-48.

Development of the MSLQ

The MSLQ has been under development formally since 1986 when NCRIPTAL was founded and informally since 1982 when we undertook our research on college student learning and teaching. The years 1982-1986 involved using a self-report instrument to assess students' motivation and use of learning strategies that varied from 50 to 140 items. We used these early instruments to evaluate the effectiveness of our "Learning to Learn" class here at the University of Michigan (see McKeachie, Pintrich, & Lin, 1985; Pintrich, McKeachie, & Lin, 1987). These instruments were used with over 1000 University of Michigan undergraduates enrolled in our course. These early instruments were subjected to the usual statistical and psychometric

analyses, including internal reliability coefficient computation, factor analyses, and correlations with academic performance and aptitude measures (e.g., SAT scores). We continually revised items on the basis of these results.

We began the formal development of the MSLQ when NCRIPTAL was founded in 1986. NCRIPTAL was funded for research on college populations excluding major research institutions like Michigan. We began using the MSLQ at three collaborating institutions in the Midwest, a four-year, public, comprehensive university; a small liberal arts college; and a community college. There were three major waves of data collection with previous versions of the MSLQ with students from these three institutions: 1986, 1987, and 1988. The items on these previous versions of the MSLQ were subjected to the usual statistical and psychometric analyses including internal reliability coefficient computation, factor analyses, and correlations with academic performance measures. The first wave of data collected in 1986 included 326 students; the second wave in 1987 included 687 students; and the third wave in 1988 included 758 students. After each of these waves we analyzed the data and rewrote items, and refined the conceptual model underlying our instrument.

Therefore, based on both theoretical and empirical analyses, we revised items and constructed scales. The final version of the MSLQ presented in this manual represents the past five years of work on these various waves of data.

Characteristics of the Sample

The data presented in this document were gathered from a sample of 380 Midwestern college students. Most of these students (N=356) attended a public, four-year university; the remaining students (N=24) attended a community college. This version of the MSLQ was administered towards the end of the Winter 1990 (January to May) semester. Thirty seven classrooms were sampled, spanning fourteen subject domains and five disciplines (natural science, humanities, social science, computer science, and foreign language). Additional demographic information about this sample can be found in Appendix A (pp. 67-71).

Item and Scale Statistics

The MSLQ scales are detailed on pages 9-29. This manual includes descriptions of each scale, as well as relevant statistics such as internal reliability coefficients, means, standard deviations, and zero order correlations with final course grade for each item and scale. Scale correlations are presented in Appendix B (p. 75). The scale correlations with final grade are significant, albeit moderate, demonstrating predictive validity. The Cronbach's alphas are robust, ranging from .52 to .93. Additionally, we have

included results from confirmatory factor analyses in Appendix C (pp. 79-87). These indicate that the MSLQ shows reasonable factor validity.

Scoring the MSLQ

Students rate themselves on a seven point Likert scale from "not at all true of me" to "very true of me." Scales are constructed by taking the mean of the items that make up that scale. For example, intrinsic goal orientation (see page 9) has four items. An individual's score for intrinsic goal orientation would be computed by summing the four items and taking the average.

Items marked as "reversed" are reverse coded items and must be reflected before scale construction. These negatively worded items and the ratings have to be reversed before an individual's score can be computed. If an item has to be reversed, a person who has circled 1 for that item now receives a score of 7 and so on. Accordingly, a 1 becomes a 7, a 2 becomes a 6, a 3 becomes a 5, a 4 remains a 4, a 5 becomes a 3, a 6 becomes a 2, and a 7 becomes a 1. The simplest way to reflect a reverse coded item is to subtract the original score from 8. For example, if the original score was 2 to the negatively worded item, one would compute 8 - 2 = 6; 6 being the score for the positively worded version of that question. The statistics reported in this manual all represent the positively worded versions of the items.

Student Feedback

It has been our policy at NCRIPTAL to provide students feedback on the MSLQ as a form of compensation for their participation in our studies. We have chosen nine scales of the MSLQ (Task Value, Self-Efficacy for Learning and Performance, Test Anxiety, Rehearsal, Elaboration, Organization, Metacognition, Time and Study Environment Management, and Effort Regulation) on which to give students feedback. The student's individual scores, the class' scale means, and quartile information are included in the feedback form. We provide descriptions of each scale and also offer suggestions to students on how to increase their levels of motivation and strategy use. Our feedback form is duplicated in this manual on pages 51-60. Again, the feedback form may be adapted to the researcher's or instructor's needs.

We have not provided norms for the MSLQ. It is designed to be used at the course level. We assume that students' responses to the questions might vary as a function of different courses, so that the same individual might report different levels of motivation or strategy use depending on the course. If the user desires norms for comparative purposes over time, we suggest the development of local norms for the different courses or instructors at the local institution.

II. MOTIVATION SCALES

Value Component: Intrinsic Goal Orientation

Goal orientation refers to the student's perception of the reasons why she is engaging in a learning task. On the MSLQ, goal orientation refers to student's general goals or orientation to the course as a whole. Intrinsic goal orientation concerns the degree to which the student perceives herself to be participating in a task for reasons such as challenge, curiosity, mastery. Having an intrinsic goal orientation towards an academic task indicates that the student's participation in the task is an end all to itself, rather than participation being a means to an end.

Item

1. In a class like this, I prefer course material that really challenges me so I can learn new things.
16. In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.
22. The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.
24. When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.

Alpha: .74

Descriptive Statistics

Item	Mean	Standard Deviation	Correlation with Final Grade
1	5.05	1.41	.22
16	5.68	1.38	.21
22	5.23	1.41	.17
24	4.14	1.58	.16
Scale	5.03	1.09	25

Value Component: Extrinsic Goal Orientation

Extrinsic goal orientation complements intrinsic goal orientation, and concerns the degree to which the student perceives herself to be participating in a task for reasons such as grades, rewards, performance, evaluation by others, and competition. When one is high in extrinsic goal orientation, engaging in a learning task is the means to an end. The main concern the student has is related to issues that are not directly related to participating in the task itself (such as grades, rewards, comparing one's performance to that of others). Again, this refers to the general orientation to the course as a whole.

Item

7. Getting a good grade in this class is the most satisfying thing for me right now.
11. The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.
13. If I can, I want to get better grades in this class than most of the other students.
30. I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.

Alpha: .62

Descriptive Statistics

Item	Mean	Standard Deviation	Correlation with Final Grade
7	5.07	1.62	.10
11	5.32	1.71	-.09
13	5.31	1.73	.10
30	4.43	2.07	-.04
Scale	5.03	1.23	.02

BEST COPY AVAILABLE

Value Component: Task Value

Task value differs from goal orientation in that task value refers to the student's evaluation of the how interesting, how important, and how useful the task is ("What do I think of this task?"). Goal orientation refers to the reasons why the student is participating in the task ("Why am I doing this?"). High task value should lead to more involvement in one's learning. On the MSLQ, task value refers to students' perceptions of the course material in terms of interest, importance, and utility.

Item

4. I think I will be able to use what I learn in this course in other courses.
10. It is important for me to learn the course material in this class.
17. I am very interested in the content area of this course.
23. I think the course material in this class is useful for me to learn.
26. I like the subject matter of this course.
27. Understanding the subject matter of this course is very important to me.

Alpha: .90

Descriptive Statistics

Item	Mean	Standard Deviation	Correlation with Final Grade
4	5.33	1.72	.15
10	5.87	1.24	.15
17	5.32	1.64	.21
23	5.72	1.38	.18
26	5.46	1.66	.19
27	5.54	1.40	.22
Scale	5.54	1.25	.22

Expectancy Component: Control of Learning Beliefs

Control of learning refers to students' beliefs that their efforts to learn will result in positive outcomes. It concerns the belief that outcomes are contingent on one's own effort, in contrast to external factors such as the teacher. If students believe that their efforts to study make a difference in their learning, they should be more likely to study more strategically and effectively. That is, if the student feels that she can control her academic performance, she is more likely to put forth what is needed strategically to effect the desired changes.

Item

2. If I study in appropriate ways, then I will be able to learn the material in this course.
9. It is my own fault if I don't learn the material in this course.
18. If I try hard enough, then I will understand the course material.
25. If I don't understand the course material, it is because I didn't try hard enough.

Alpha: .68

Descriptive Statistics

Item	Mean	Standard Deviation	Correlation with Final Grade
2	6.12	1.14	.21
9	5.60	1.62	.06
18	6.14	1.02	.15
25	5.09	1.62	.01
Scale	5.74	.98	.13

Expectancy Component: Self-Efficacy for Learning and Performance

The items comprising this scale assess two aspects of expectancy: expectancy for success and self-efficacy. Expectancy for success refers to performance expectations, and relates specifically to task performance. Self-efficacy is a self-appraisal of one's ability to master a task. Self-efficacy includes judgments about one's ability to accomplish a task as well as one's confidence in one's skills to perform that task.

Item

5. I believe I will receive an excellent grade in this class.
6. I'm certain I can understand the most difficult material presented in the readings for this course.
12. I'm confident I can understand the basic concepts taught in this course.
15. I'm confident I can understand the most complex material presented by the instructor in this course.
20. I'm confident I can do an excellent job on the assignments and tests in this course.
21. I expect to do well in this class.
29. I'm certain I can master the skills being taught in this class.
31. Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.

Alpha: .93

BEST COPY AVAILABLE

Expectancy Component: Self-Efficacy for Learning and Performance

Descriptive Statistics

Item	Mean	Standard Deviation	Correlation with Final Grade
5	4.95	1.59	.49
6	5.18	1.62	.19
12	6.36	.96	.23
15	5.36	1.48	.22
20	5.24	1.47	.39
21	5.55	1.39	.46
29	5.57	1.30	.28
31	5.55	1.34	.44
Scale	5.47	1.14	.41

Part A. Motivation

The following questions ask about your motivation for and attitudes about this class. Remember there are no right or wrong answers, just answer as accurately as possible. Use the scale below to answer the questions. If you think the statement is very true of you, circle 7; if a statement is not at all true of you, circle 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

1 not at all true of me	2	3	4	5	6	7 very true of me

1.	In a class like this, I prefer course material that really challenges me so I can learn new things.	1	2	3	4	5	6	7
2.	If I study in appropriate ways, then I will be able to learn the material in this course.	1	2	3	4	5	6	7
3.	When I take a test I think about how poorly I am doing compared with other students.	1	2	3	4	5	6	7
4.	I think I will be able to use what I learn in this course in other courses.	1	2	3	4	5	6	7
5.	I believe I will receive an excellent grade in this class.	1	2	3	4	5	6	7
6.	I'm certain I can understand the most difficult material presented in the readings for this course.	1	2	3	4	5	6	7
7.	Getting a good grade in this class is the most satisfying thing for me right now.	1	2	3	4	5	6	7
8.	When I take a test I think about items on other parts of the test I can't answer.	1	2	3	4	5	6	7

BEST COPY AVAILABLE

		not at all true of me						very true of me
9.	It is my own fault if I don't learn the material in this course.	1	2	3	4	5	6	7
10.	It is important for me to learn the course material in this class.	1	2	3	4	5	6	7
11.	The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.	1	2	3	4	5	6	7
12.	I'm confident I can learn the basic concepts taught in this course.	1	2	3	4	5	6	7
13.	If I can, I want to get better grades in this class than most of the other students.	1	2	3	4	5	6	7
14.	When I take tests I think of the consequences of failing.	1	2	3	4	5	6	7
15.	I'm confident I can understand the most complex material presented by the instructor in this course.	1	2	3	4	5	6	7
16.	In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.	1	2	3	4	5	6	7
17.	I am very interested in the content area of this course.	1	2	3	4	5	6	7
18.	If I try hard enough, then I will understand the course material.	1	2	3	4	5	6	7
19.	I have an uneasy, upset feeling when I take an exam.	1	2	3	4	5	6	7

		not at all true of me						very true of me
20.	I'm confident I can do an excellent job on the assignments and tests in this course.	1	2	3	4	5	6	7
21.	I expect to do well in this class.	1	2	3	4	5	6	7
22.	The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.	1	2	3	4	5	6	7
23.	I think the course material in this class is useful for me to learn.	1	2	3	4	5	6	7
24.	When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.	1	2	3	4	5	6	7
25.	If I don't understand the course material, it is because I didn't try hard enough.	1	2	3	4	5	6	7
26.	I like the subject matter of this course.	1	2	3	4	5	6	7
27.	Understanding the subject matter of this course is very important to me.	1	2	3	4	5	6	7
28.	I feel my heart beating fast when I take an exam.	1	2	3	4	5	6	7
29.	I'm certain I can master the skills being taught in this class.	1	2	3	4	5	6	7
30.	I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.	1	2	3	4	5	6	7
31.	Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.	1	2	3	4	5	6	7

VII. SAMPLE FEEDBACK FORM

MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE (MSLQ)

Earlier this semester you took a questionnaire called the Motivated Strategies for Learning Questionnaire (also called the MSLQ). The purpose of this questionnaire was to gather some information about your study habits, your learning skills, and your motivation for schoolwork. As promised, we are providing you with feedback from the MSLQ on your study habits, learning skills, and motivation. This handout describes how to interpret your scores, so you can figure out what the scores mean.

This feedback is intended to help you determine your own strengths and weaknesses as a student. From past experience, we have found that students like to have some information on how other students do on the MSLQ. Therefore, we have included information about the average levels of motivation and learning skills for the students in your instructor's class. Your class as a whole may be generally high in some areas and low in others, so think about <u>your own</u> skills rather than about comparisons with others.

You may want to use this feedback to do something about changing your study skills or motivation. All of the motivational and study skills mentioned on your feedback sheet are learnable. This is an important idea to remember, especially in college. You can decide whether you want to change these aspects of your learning style. We have provided some hints to go along with each scale. We hope you find these suggestions helpful. But keep in mind that these are not the only ways to improve each area. You may want to seek additional help from services available at your institution.

<u>How to interpret your scores</u>. All the scales are based on a seven point scale. Although some items were worded negatively, we have reversed these questions so that in general, a higher score such as a 4, 5, 6, or 7 is better than a lower score like a 1, 2, or 3. The only exception is the test anxiety scale, where a high score means more worrying.

The average score for your class, as well as the breakdown of the scores for the bottom 25%, middle 50%, and the top 25%, is provided for each scale. If your score is at the bottom 25% on a scale, this means that most of the students in your class are reporting more motivation or use of learning strategies than you. If your score is in the middle 50%, then you are similar to most students. If your score is in the top 25%, then you think you are more motivated or use more learning strategies than other students. In general, if your scores are above 3, then your are doing well. If you are below 3 on more than six of the nine scales, you may want to seek help from your instructor or the counseling services at your institution.

MOTIVATION SCALES: The first three scales refer to your motivation for the course, confidence in doing well in school, and your anxiety about taking tests.

I. Motivation: Interest

This is a measure of how interested you are in the material being covered in this course. A high score means you like the subject matter and are very interested in the content area of this class.

Your score: _____

Class mean: _____

Bottom 25%: _____

Middle 50%: _____

Top 25%: _____

Suggestions: Skim the table of contents of the class textbook or take a look at the course syllabus and make a list of the three topics that most interest you and of the three topics that least interest you. Pay particular attention to these topics. What is it about the three most interesting topics that makes you like them so much? What is it about the other three topics that makes them uninteresting? Can you find any of the characteristics of the three most interesting topics in the three least interesting topics? If you identify what it is about the three most interesting topics that makes you like them so much, you may be able to apply what you found to the three least interesting ones, and perhaps you'll find that those uninteresting topics aren't so uninteresting after all!

III. Test Anxiety

This is a measure of how much you worry about tests and how often you have distracting thoughts when you take an exam. In contrast to the other scales, a high score here means that you are anxious in testing situations.

Your score: _____

Class mean: _____

Bottom 25%: _____

Middle 50%: _____

Top 25%: _____

Suggestions: Developing better study skills usually results in less anxiety. Prepare well for class and try to complete assignments on time. Try not to wait until the last minute to get things done or to get ready for an exam. Doing this should help build your confidence at test time and hopefully reduce test anxiety. When taking a test, concentrate on one item at a time, and if you're stumped on a question, move on and go back to the question later. Remind yourself that you've prepared well and if you can't answer some questions, it's ok, you'll still be able to answer the others.

II. Motivation: Expectancy for Success

This is a measure of your perceptions of your potential success in this course and of your self-confidence for understanding the course content. A high score means that you think you will do well in the course, and feel confident that you will be able to master the course material.

Your score: _____

Class mean: _____

Bottom 25%: _____

Middle 50%: _____

Top 25%: _____

Suggestions: Evaluate your current approach to a course assignment from different points of view. For example, describe the effectiveness and ineffectiveness of your own approach from your own perspective. Then imagine how a classmate might evaluate your approach. By analyzing the way you are tackling an assignment, you may be able to figure out what you're doing right and what you're doing wrong and can change your approach. A better understanding of the way you learn, what works and what doesn't work, may help increase your confidence in doing well in this course.

Appendix D

OFFICE OF THE PRESIDENT

January 30, 1998

To Whom It May Concern:

This is to certify that Steven C. Howey is granted permission to utilize the faculty, resources, and students of Hutchinson Community College as appropriate in dissertation research at Kansas State University. This research is to be performed under the supervision of Dr. Margery Neely, in accordance with prescribed ethical human research practices as determined by Kansas State University and Hutchinson Community College.

Dr. Edward E. Berger
President

HUTCHINSON COMMUNITY COLLEGE AND AREA VOCATIONAL SCHOOL

ASSET / ORIENTATION GRADE

SS(x) =	3508.19
SS(y) =	104.99
SS(xy) =	130.91
r =	0.22

ASSET / SEMESTER GPA

SS(x) =	3508.19
SS(y) =	83.87
SS(xy) =	193.03
r =	0.36

ORIENTATION GRADE / SEMESTER GPA

SS(x) =	104.99
SS(y) =	83.87
SS(xy) =	59.25
r =	0.63

50	4	1.73	54
40	4	3.00	54
40	5	2.17	52
42	5	3.25	52
	1	0.14	50
50	5	4.00	50
40	4	3.73	50
38	5	3.28	50
41	5	2.64	50
40	5	1.00	49
49	5	3.00	49
47	5	3.41	49
37	5	1.58	49
46	5	2.86	49
45	4	2.42	49
52	5	2.78	49
47	5	1.89	49
	4	3.13	49
42	4	3.23	47
54	5	3.36	47
46	5	3.54	47
38	2	0.07	47
50	5	3.50	47
41	5	3.08	47
47	5	3.31	47
38	5	2.12	47
49	5	2.69	47
35	5	2.92	47
38	5	2.00	46
44	5	3.58	46
45	5	2.38	46
46	3	1.17	46
44	5	2.00	46
44	5	3.06	46
42	2	0.77	45
44	4	3.00	45
38	5	3.31	45
42	5	2.86	45
	3	2.92	45
44	5	1.50	45
41	5	3.08	45
45	5	2.94	44
35	5	2.67	44
44	5	3.46	44
40	5	3.79	44
40	5	2.00	44
38	4	0.71	44
47	5	2.31	44
45	5	4.00	44
45	5	2.64	44
49	5	4.00	44
49	5	3.54	44
31	2	0.71	44
39	4	2.00	44
47	2	2.33	43
47	1	0.50	42
49	5	3.40	42
47	5	3.57	42
32	5	2.20	42

BEST COPY AVAILABLE

HUTCHINSON COMMUNITY COLLEGE AND AREA VOCATIONAL SCHOOL

40	3	1.33	41
54	5	4.00	41
44	5	3.14	41
32	4	1.47	41
20	5	2.62	41
52	5	3.06	41
50	5	3.79	40
44	5	3.42	40
38	5	2.33	40
44	5	2.58	40
34	5	2.57	40
41	5	3.06	40
45	4	3.00	40
46	1	0.00	40
37	3	1.63	39
44	5	1.92	39
49	5	3.25	38
32	4	2.06	38
28	1	2.36	38
46	5	3.00	38
49	5	3.42	38
39	5	2.73	38
41	5	3.15	38
41	5	1.38	38
47	5	3.31	38
45	5	2.69	37
37	5	2.73	37
38	5	2.29	37
46	5	1.93	37
47	5	3.69	35
34	5	3.78	35
40	5	2.83	34
	5	2.35	34
32	3	2.27	32
49	5	3.08	32
38	1	0.00	32
50	5	4.00	32
44	4	2.06	32
45	4	3.00	31
37	5	2.29	29
44	5	3.20	20
32	5	3.05	
47	5	3.33	
49	5	3.44	
43	5	2.80	
4259	464	273.12	
42.6	4.46	2.63	671 Students 104 in the Sample

Asset Language: 3.46

B- Orientation Class Average Grade

B- 9515 Term GPA

BEST COPY AVAILABLE

HUTCHINSON COMMUNITY COLLEGE AND AREA VOCATIONAL SCHOOL

ASSET LANGUAGE		ORIENTATION GRADE		9818 GPA		ASSET x ORIENTATION	GPA x ASSET	GPA x ORIENTATION
Score	ScorexScore	Score	ScorexScore	Score	ScorexScore			
50	2500	4	16	1.73	2.9929	200	86.5	6.92
40	1600	4	16	3.00	9	160	120	12
40	1600	5	25	2.17	4.7089	200	86.5	10.85
42	1764	5	25	3.25	10.5625	210	106.5	16.25
50	2500	5	25	4.00	16	250	200	20
40	1600	4	16	3.73	13.9129	160	149.2	14.92
38	1444	5	25	3.28	10.7584	190	124.64	16.4
41	1681	5	25	2.64	6.9696	205	108.24	13.2
40	1600	5	25	1.00	1	200	40	5
49	2401	5	25	3.00	9	245	147	15
47	2209	5	25	3.41	11.6281	235	160.27	17.05
37	1369	5	25	1.58	2.4964	185	58.46	7.9
46	2116	5	25	2.86	8.1796	230	131.56	14.3
45	2025	4	16	2.42	5.8564	180	108.9	9.68
52	2704	5	25	2.78	7.7284	260	144.56	13.9
47	2209	5	25	1.89	3.5721	235	88.83	9.45
42	1764	4	16	3.23	10.4329	168	135.66	12.92
54	2916	5	25	3.36	11.2896	270	181.44	16.8
46	2116	5	25	3.54	12.5316	230	162.84	17.7
38	1444	2	4	0.07	0.0049	76	2.66	0.14
50	2500	5	25	3.50	12.25	250	175	17.5
41	1681	5	25	3.08	9.4864	205	126.28	15.4
47	2209	5	25	3.31	10.9561	225	155.57	16.55
38	1444	5	25	2.12	4.4944	190	80.56	10.6
49	2401	5	25	2.69	7.2361	245	131.81	13.45
35	1225	5	25	2.92	8.5264	175	102.2	14.6
38	1444	5	25	2.00	4	190	76	10
44	1936	5	25	3.58	12.8164	220	157.52	17.9
45	2025	5	25	2.98	8.2944	225	129.6	14.4
46	2116	3	9	1.17	1.3689	138	53.82	3.51
44	1936	5	25	2.00	4	220	88	10
44	1936	5	25	3.06	9.3636	220	134.64	15.3
42	1764	2	4	0.77	0.5929	84	32.34	1.54
44	1936	4	16	3.00	9	176	132	12
38	1444	5	25	3.31	10.9561	190	125.78	16.55
42	1764	5	25	2.86	8.1796	210	120.12	14.3
44	1936	5	25	1.60	2.56	220	70.4	9
41	1681	5	25	3.08	9.4864	205	126.28	15.4
45	2025	5	25	2.94	8.6436	225	132.3	14.7
25	1225	5	25	2.67	7.1289	175	93.45	13.35
44	1936	5	25	3.46	11.9716	220	152.24	17.3
40	1600	5	25	3.79	14.3641	200	151.8	18.95
40	1600	5	25	2.00	4	200	80	10
38	1444	4	16	0.71	0.5041	152	25.98	2.84
47	2209	5	25	2.31	5.3361	235	108.57	11.55
45	2025	5	25	4.00	16	225	180	20
45	2025	5	25	2.64	6.9696	225	118.8	13.2
49	2401	5	25	4.00	16	245	196	20
49	2401	5	25	3.54	12.5316	245	173.46	17.7
31	961	2	4	0.71	0.5041	62	22.01	1.42
39	1521	4	16	2.00	4	156	78	8
47	2209	2	4	2.83	8.0089	94	133.01	5.66
47	2209	1	1	0.90	0.81	47	42.3	0.9
49	2401	5	25	3.40	11.56	245	166.6	17
47	2209	5	25	3.57	12.7449	235	167.79	17.85
22	1024	5	25	2.20	4.84	160	70.4	
40	1600	3	9	1.33	1.7689	70	53.2	3.99
54	2916	5	25	4.00	16	270	216	20
44	1936	5	25	3.14	9.8596	220	138.16	15

9818 ORIENTATION CLASS EVALUATION

BEST COPY AVAILABLE

32	1024	4	16	1.47	2.1509	128	47.04	6.38
20	400	5	25	2.62	6.8644	100	52.4	13.1
52	2704	5	25	3.06	9.3636	260	159.12	15.3
50	2500	5	25	3.79	14.3641	250	189.5	18.95
44	1936	5	25	3.42	11.6964	220	150.48	17.1
38	1444	5	25	2.33	5.4289	190	88.54	11.65
44	1936	5	25	2.58	6.6564	220	113.52	12.9
34	1156	5	25	2.57	6.6049	170	87.38	12.85
41	1681	5	25	3.06	9.3636	205	125.46	15.3
45	2025	4	16	3.00	9	180	135	12
46	2116	1	1	0.00	0	46	0	0
37	1369	3	9	1.63	2.6569	111	60.31	4.89
44	1936	5	25	1.92	3.6864	220	84.48	9.6
49	2401	5	25	3.25	10.5625	245	159.25	16.25
32	1024	4	16	2.06	4.2436	128	65.92	8.24
28	784	1	1	2.36	5.5696	28	66.08	2.36
46	2116	5	25	3.00	9	230	138	15
49	2401	5	25	3.42	11.6964	245	167.58	17.1
39	1521	5	25	2.73	7.4529	195	106.47	13.65
41	1681	5	25	3.15	9.9225	205	129.15	15.75
41	1681	5	25	1.38	1.9044	205	56.58	6.9
47	2209	5	25	3.31	10.9561	225	155.57	16.55
45	2025	5	25	2.69	7.2361	225	121.05	13.45
37	1369	5	25	2.73	7.4529	185	101.01	13.65
38	1444	5	25	2.29	5.2441	190	87.02	11.45
46	2116	5	25	1.93	3.7249	230	88.78	9.65
47	2209	5	25	3.69	13.6161	225	173.43	18.45
34	1156	5	25	3.78	14.2884	170	128.52	18.9
40	1600	5	25	2.83	8.0089	200	113.2	14.15
32	1024	3	9	2.27	5.1529	96	72.64	6.81
49	2401	5	25	3.08	9.4864	245	150.92	15.4
38	1444	1	1	0.00	0	38	0	0
50	2500	5	25	4.00	16	250	200	20
44	1936	4	16	2.06	4.2436	176	90.64	8.24
45	2025	4	16	3.00	9	180	135	12
37	1369	5	25	2.29	5.2441	185	84.73	11.45
44	1936	5	25	3.20	10.24	220	140.8	16
32	1024	5	25	3.05	9.3025	160	97.6	15.25
47	2209	5	25	3.33	11.0889	235	156.51	16.65
49	2401	5	25	3.44	11.8336	245	168.56	17.2
43	1849	5	25	2.80	7.84	215	120.4	14
4259	184899	451	2139	254.58	783.90	19339	11461.49	1252.51

BEST COPY AVAILABLE